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VOCATIONAL SPECIAL NEEDS

SECOND EDITION

an atp publication

Michelle Donnelly Sarkees
John L. Scott

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VOCATIONAL SPECIAL NEEDS

SECOND EDITION

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Michelle Donnelly Sarkees
John L. Scott

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Introduction

This book is divided into 12 modules, each covering a specific area of vocational special needs education. Each is self-contained and can be studied independently of other modules. All modules have the same organizational structure, including the following components:

Outline: provides an overview of major content areas.

Objectives: identifies information that the reader should be familiar with after he or she has read the module.

Concepts: provides a list of important terms and definitions that are major items in the module.

Content: provides information about a specific topic relating to special needs learners in vocational programs. The body of the module is divided into subsections for easy location of pertinent information. Modules also contain figures that can be useful to vocational personnel working with special needs learners.

Summary: provides a synopsis of the information covered in the module.

Self Assessment: provides the reader with questions as a review of what he or she has learned from the module.

Associated Activities: lists ideas for activities that can be useful in working with special needs learners.

Case Study: provides an example of a handicapped or disadvantaged learner who has been integrated successfully into a vocational program. The specific support services, instructional techniques, and resources used by the vocational teacher to assist the learner are described.

Related Activity: provides the reader with situations that call for the application of knowledge gained in the module.

References: documents sources used in the development of the module, which can also be used as sources of additional related information.

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Bemidji State University

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Handicapped and disadvantaged students have the legal right to enter vocational programs in order to develop marketable skills. These learners have the same needs and desires as anyone else to develop occupational skills, enter the labor force, and become contributing members of society. Vocational educators are working cooperatively with other educational personnel and professionals from the community to mainstream special needs learners into regular programs whenever possible and provide necessary support services to help them succeed.

Important economic reasons exist for providing vocational education opportunities for special needs learners as evidenced by recent statistical reports citing economic benefits. It is more cost effective to educate special needs students than to provide high cost public support for these individuals.

During the past two decades, considerable progress has been made in allowing special needs learners access to vocational education programs. The Carl D. Perkins Vocational Education Act of 1984 complements earlier legislation in authorizing federal funds to be used to support instruction for special needs learners. A look into the future reveals continued support for members of special populations and technological advancements, which should enhance training and employment opportunities for special needs learners.

This module presents the rationale for mainstreaming special needs students into vocational programs and provides a glimpse into the future for vocational special needs education.

OUTLINE

- Providing Vocational Education Opportunities for Handicapped and Disadvantaged Individuals
- Economic Considerations
- Educational Considerations
- Legal Considerations
  - The Education for All Handicapped Children Act of 1975 (P.L. 94-142)
  - The Rehabilitation Act of 1973 (P.L. 93-112)
  - The Job Training Partnership Act (P.L. 97-300)
  - The Carl D. Perkins Vocational Education Act of 1984 (P.L. 98-524)
- Provisions for Handicapped and Disadvantaged Learners
  - Specific Guidelines for Handicapped Learners
  - Specific Guidelines for Disadvantaged Learners
- The Mainstreaming Effort
- Competencies for Working With Special Needs Learners
- Looking To The Future
- Summary
- Self Assessment
- Case Study
- Related Activity
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Discuss the need for providing vocational education opportunities for handicapped and disadvantaged individuals, including economic and educational considerations.
2. Identify legislation that provides guidelines for vocational opportunities for handicapped and disadvantaged learners and discuss the implications for program delivery at the local level.
3. Identify barriers to successful participation in and completion of vocational education programs for special needs learners and discuss how these barriers can be overcome.
4. Define mainstreaming and discuss the process that should take place to successfully integrate special needs learners in vocational programs.
5. Identify competencies that are useful in working with special needs learners.
6. Describe trends and issues that should have an impact on the future of vocational education and implications for special needs learners.

CONCEPTS

Disadvantaged - Individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, incarcerated, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school. (P.L. 98-524)

Handicapped - Applied to individuals who are mentally retarded, hard of hearing, deaf, speech- or language-impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health-impaired persons, or persons with specific learning disabilities, who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance. (P. L. 98-524)

Mainstreaming - The inclusion of special needs learners in regular education classes with as much extra support from professional specialists as each learner requires.

Special needs learner - Individual who encounters or is likely to encounter difficulty in educational or employment settings because of a disability, economic or academic disadvantage, who has different linguistic or cultural background, or outdated job skills, and who requires individually prescribed and unique teaching strategies; supportive services that vary in type and extent depending on individual need; and additional resources from society for his or her acceptance. (Phelps, 1985)

Vocational education - Organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, in such fields as agriculture, business occupations, home economics, health occupations, marketing and distributive occupations, technical and emerging occupations, modern industrial and agricultural arts, and trades and industrial occupations, or for additional preparation for a career in such fields, and in other occupations requiring other than a baccalaureate or advanced degree and vocational student organization activities as an integral part of the program. (P. L. 98-524)

Module 1
VOCATIONAL EDUCATION FOR SPECIAL NEEDS LEARNERS

PROVIDING VOCATIONAL EDUCATION OPPORTUNITIES FOR HANDICAPPED AND DISADVANTAGED INDIVIDUALS

Work is an important part of life. It provides a sense of recognition and self-respect. Special needs individuals need work and the advantages of work just as other people do. However, prejudices often directed toward these individuals have caused them to be treated as surplus citizens who are incapable of becoming contributing and productive members of society.

In this nation, there has been a growing concern about providing vocational education and employment opportunities for individuals with special needs. Justification for this concern has been reinforced by economic, legislative, and educational data. For purposes of this module, the following terms have been defined for the reader:

1. The term "handicapped individuals" refers to individuals who are mentally retarded, hard of hearing, deaf, speech or language impaired, or other health impaired persons, or persons with specific learning disabilities, cannot succeed in the regular vocational education program without special education or related services (P.L. 98-524).

2. The term "disadvantaged learners" refers to individuals who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, incarcerated, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school (P.L. 98-524).

3. The term "special needs learners" refers to individuals who encounter or are likely to encounter difficulty in educational or employment settings because of a disability, economic or academic disadvantage, different linguistic or cultural background or outdated job skills, and who require (a) individually prescribed and unique teaching strategies; (b) supportive services that vary in type and extent depending on individual need; and (c) additional resources from society for their acceptance (Phelps, 1985).

During the past several decades, there has been increased public awareness of the rights of special needs individuals. Although traditionally they have been overlooked and denied the rights that are taken for granted by the general population, public schools have been trying to remove the barriers that confront special needs learners. These barriers include attitudinal, educational, and physical obstacles that prevent full participation in regular public school programs. Efforts to provide equal educational rights include access to regular vocational programs.

Large numbers of special needs individuals have left public schools without the salable skills needed to secure a job. They often face unemployment and underemployment. Many remain dependent on society, which results in an economic drain as well as a great loss of undeveloped individual potential.

Participation in vocational programs can provide the first real feeling of accomplishment that these students experience. School has given many special needs learners a sense of frustration and failure. The opportunity to enroll in vocational programs can provide them with a chance to develop their aptitudes and abilities. Perhaps for the first time, these individuals can achieve success and develop a sense of self-worth and independence.

In 1976, the U.S. Secretary of Education reacted to a General Accounting Office report, which underscored the need to provide additional training for vocational teachers to work with handicapped learners as follows:

> We concur with the findings of the GAO report and firmly acknowledge that the current exclusion of the handicapped from regular vocational education programs is a serious problem which needs attention. The problem is twofold: vocational educators are not being afforded the opportunity to acquire the skills and abilities necessary to work effectively with the handicapped in vocational education and, secondly, special educators are not adequately prepared to provide the appropriate career and prevocational educa-

tional experiences to handicapped students. Although there are efforts underway through The Education for All Handicapped Children Act (P.L. 94-142) training funds to train specialists in this area of need, we are proposing that the U.S. Office of Education develop a formal cooperative agreement between the Bureau of Education for the Handicapped and the Bureau of Occupational and Adult Education to facilitate this activity. The two bureaus will jointly establish program guidelines aimed at developing joint modes of implementation and evaluation, as well as jointly stressing the high priority of this approach to the training institutions.

The importance of vocational education for handicapped youth can be seen in a position paper released by the United States Office of Education on June 10, 1978, which stated:

> It is the position of the U.S. Office of Education that an appropriate comprehensive vocational education will be available and accessible to every handicapped person. . . . Vocational education must provide the education and training to develop occupational competencies. . . . Appropriate comprehensive vocational education for handicapped persons will provide sequential educational instruction and training appropriate to the needs and progress of each handicapped individual. (National Association of State Boards of Education, 1979)

The Council on Vocational Education, in a position statement entitled, ''Position Statement on Vocational Education for Students With Disabilities,'' (1983) made the following point:

> It then becomes abundantly clear that we can ill afford *NOT* to prepare handicapped people for employment. Vocational educators must provide learning and occupational opportunities for disabled persons to become independent and cast off the kinds of assistance, although well-intentioned, that leads to dependency. Vocational education for the handicapped necessitates a change of thinking on the part of the employers about hiring disabled people. The disabled student requires a great deal of understanding on the part of the teacher. Different safety rules may be required; more space may be needed in labs to maneuver a wheelchair. More career and vocational guidance centers are needed so that students with handicapping conditions can find the career or vocation in which they will be successful. Vocational teachers must be prepared to offer praise frequently. School personnel must administer a series of work evaluations and assessments to accurately assess the students' interests and abilities prior to developing a formalized individual vocational program. Employers have found that handicapped employees are more responsible, have fewer absences, and pay more attention to detail work than many other workers.
>
> In view of the employment potential of disabled people and the legal and economic reasons for facilitating their access to employment-related programs, we must continue to explore new mechanisms which will enable the vocational education enterprise to expand and improve its services to this target population. (pp. 2-3)

The National Association of State Directors of Vocational Education (1980) state that ''Vocational education has no particular constituency; it is a program for all people.'' Handicapped and disadvantaged students now have the legal right to enroll in vocational programs to develop salable skills. Handicapped and disadvantaged students have special needs, but as human beings they have the same needs and desires as anyone else to develop their vocational potential, enter the labor force, and become contributing members of society.

Rather than look for pity and depend on charity, these individuals have expressed a preference for the independence and self-sufficiency that they can gain through employment. Vocational programs are an excellent source of job preparation for many of these individuals. Vocational teachers who have worked with special needs students have found that they have greater ability than was expected. Teachers have expressed amazement at the quality and quantity of specific skills that these students have developed. Successful experience with students who have special needs has led teachers to have more confidence and less anxiety.

There are important reasons for revising attitudes toward special needs learners. Some of the reasons are legal. Other reasons have come from a greater feeling of moral responsibility for the less fortunate in society. However, regardless of the motive for changing attitudes, accommodation for these students must be made. Several of these reasons will be examined in this module, including economic considerations, educational considerations, and legislative considerations.

As educators, we must extend our professional commitment to all students. The worth and dignity of each human being must be recognized. The potential of each individual learner must be assessed and developed to the fullest. The responsibility of each vocational teacher is to help all learners, including special needs students, to become productive members of the labor force.

ECONOMIC CONSIDERATIONS

Important economic reasons exist for providing vocational education opportunities for special needs learners. The following statistics show the need to expand vocational education opportunities for special needs learners.

1. In 1983, 50–70% of all persons with disabilities were unemployed. (U.S. Commission on Civil Rights, 1983)

2. In 1983, 50–83% of disabled adults were unemployed. (Bureau of the Census, 1983)

3. In 1982, the mean earnings for disabled women were $5,835 as compared to $13,863 for disabled men. Disabled white female workers aged 18 to 44 earned less than one-third the salary of their male counterparts. Disabled black female workers earned even less than disabled white women and less than half the earnings of disabled black men. (Bureau of the Census, 1982)

4. Those handicapped individuals who do gain access to employment usually:

- have low wages
- are slow to move toward upward employment
- are segregated from nondisabled peers (Department of Labor Data, 1982).

5. In 1979, 40% of adult disabled population was employed compared to 74% of the nondisabled population (Office of Education, 1979).

6. Of the disabled employed in 1979, 85% earned less than $7,000 per year (Office of Education, 1979).

7. Of the disabled employed in 1979, 52% earned less than $2,000 per year (Office of Education, 1979).

8. In 1979, 50% of all U.S. residents who were unemployed were handicapped (Office of Education, 1979).

9. In 1979, 76% of all disabled women were unemployed (Office of Education, 1979).

10. It is predicted that if disadvantaged and minority youth are not aided in developing their vocational and employment opportunities in the future, the unemployment rate for this group could be 13 times greater than for the general population by 1990 (Pinn, 1979).

The following are economic implications relating to the special needs population:

1. With 7.6 million disabled people out of work, almost all of whom are on some governmental assistance programs, the cost to the federal government alone is $40 billion annually. This is $1 out of every $13 in the federal budget. Lowering these costs, while increasing tax revenues through income and payroll taxes will help cut government spending and reduce inflation. Enhanced employment will also help control the recession by increasing productivity in industry and stimulating spending, saving and investment among millions of disabled persons (American Coalition of Citizens with Disabilities, 1979).

2. Employed persons pay federal income and payroll (social security) taxes on their earnings. A person making $10,000 a year pays approximately $2,000 annually in taxes.

3. Where special arrangements are required, they are generally neither disruptive nor very expensive. The 1982 results of the first national survey of federal contractors represented 512,000 workers, of whom 19,200 were known to have handicaps. Of the accommodations made for these employees, about half cost the employers nothing, and another 30% involved expenses ranging from $1 to $500 (National Information Center for Handicapped Children and Youth, 1983).

4. Statistics show that for every dollar spent on rehabilitation training, the individual can expect a return of approximately ten or more dollars in lifetime earnings. The amount of income tax paid by the working disabled is proportionally increased. For the nation, dependence includes the added cost of public maintenance, institutionalized care, and social security disability payments (The National Advisory Council on Vocational Education, 1983).

5. The cost of providing assistance to disabled individuals who are dependent on society because they are not employed exceeds $100 billion each year (American Coalition of Citizens with Disabilities, 1979).

6. Handicapped workers have good track records, and several studies showed that they have demonstrated their value as employees. In one survey of 125 handicapped people integrated into the work force of an American Telephone and Telegraph plant, no injuries were reported among them, they had fewer absences, and they were more productive than the general work force. A study of 1452 handicapped DuPont employees showed that these workers created no increase in workman's compensation claims; most were average or above average in matters of job safety, stability, and performance, and most required no special arrangements (National Information Center for Handicapped Children and Youth, 1983).

7. Although many functionally illiterate people cleverly learned to hide their problem, millions of employees suffering from varying degrees of illiteracy are costing their companies daily through low productivity, workplace accidents, absenteeism, poor product quality, and lost management and supervisory time (Coalition on Literacy, 1983).

8. The millions of adults who cannot qualify for much of the work our technological economy demands represent a major loss of potential customers (Coalition on Literacy, 1983).

9. In the seventies, the proportion of children in poverty in American society rose from 2% to 20%.

This statistic is now at least 22%, and the number of children at poverty-rate is projected to grow. Fully 39% of all those in poverty are children under the age of 18 (Lynch, 1985).

10. Family structures are undergoing a major transformation as follows:
   - in 1984, 63% of all children had mothers in the work force;
   - in 1982, 63% of all children lived with both biological parents; 22% lived with only one parent, and the remainder lived with stepparents, grandparents, adoptive parents or were in foster care;
   - in 1982, 36.3% of households headed by women were in poverty; and
   - the poverty figures for black and hispanic women who head households are 56.2% and 55.4%, respectively (Lynch, 1985).

11. In 1983, an estimated 75% of the adult unemployed were functionally illiterate, seriously reducing the pool of competent persons available for employment. In addition, the promotability and mobility of many of those employed was restricted for lack of the essential basic skills (Coalition on Literacy, 1983).

EDUCATIONAL CONSIDERATIONS

The following is information concerning the enrollment of special needs learners in vocational education programs.

1. During the 1981 school year, 34.6% of the estimated number of disabled students in grades 9 to 12 were served by vocational education. This figure is evidence of a continual increase in the number of disabled students served. Between 1976 and 1981, secondary vocational enrollment increased to about 18%. For the same period, secondary enrollment of disabled students in vocational programs changed from 203,647 to 437,397, an increase of 115% (The National Advisory Council on Vocational Education, 1983).

2. In the population of persons ages 25–64:

Disabled Females	Disabled Males	
35%	32%	Completed high school
10%	13%	Completed 1–3 years of college
9%	11%	Completed 4+ years of college

(Bureau of the Census Data, March, 1982)

3. Each year approximately 625,000 handicapped young people graduate or terminate eligibility in our nation's schools. Their future is predicted to look like this:
   - 21% will become fully employed or enrolled in college
   - 40% will be underemployed and at the poverty level
   - 8% will be in their home community and idle much of the time
   - 26% will be unemployed and on welfare
   - 3% will be totally dependent and institutionalized

(Committee on Youth Development, President's Committee on Employment of the Handicapped, 1981).

4. In 1979, less than 2% of the enrollment of students in vocational education was comprised of handicapped students; 60% of these handicapped students were in segregated settings (Office of Education, 1979).

5. Studies show that 8% of the high school population may be considered handicapped; yet only 3.3% of the secondary students in vocational education are handicapped. A similar comparison can be made for the limited-English-proficient population (Phelps, 1984).

6. The 1979 Ford Foundation report states that 23 million adults have less than eight years of schooling and 54 million adults (36% of the population) never graduated from high school. The national dropout rate was 28.3% during the 1981–82 school year. (Plisko, 1983) The level of education of individuals has become the basic criteria for employment in the majority of occupations (Business Poll, 1983).

7. In 1984 2% of the four year college population was disabled. Based on national statistics it should have been about 10-11%. At the same time, 3% of the community college population was disabled. Based on national statistics it should have been about 10-11% (Park, 1984).

8. Preliminary studies have shown a drop-out rate in high school of about 5 to 6 times higher for disabled students than for nondisabled students (Park, 1984).

9. Annually, about 2.5 million cases enter the nation's juvenile justice system, and very little is known about the extent to which these youth (as well as other special needs individuals such as the gifted and talented, single teenage parents and the severely handicapped) have access to vocational programs that would enhance their employability (Phelps, 1984).

10. The U.S. Department of Education estimates that nearly 1.1 million students fail to complete high school each year. Since the mid 1960s the high school completion rate for students entering the ninth grade has never exceeded 74%.

11. In the U.S. there are 27 million adults who cannot read or write. In addition there are another 45

million adults who are only marginally competent in performing basic literacy-related tasks needed for everyday living and working. Approximately 75 million adults (one out of every three adult Americans) need help to develop essential reading, writing, and other basic skills (Coalition for Literacy, 1983).

12. Approximately 2.3 million functionally illiterate individuals join the labor pool each year. Of that number, 1 million individuals are high school dropouts, 400,000 are legal immigrants, 100,000 are refugees, and 800,000 are illegal immigrants (Office of the Press Secretary, The White House, 1983).

13. During the 1980–81 academic year nearly 64% of the special needs students were enrolled at the secondary level, while the balance (36%) were served in postsecondary and adult programs (Phelps, 1983).

14. During the 1980–81 academic year special needs students successfully completed their vocational education program at approximately the same rate as all vocational education students (Phelps, 1983).

15. In 1980–81 only 160,000 limited-English-proficiency youth and adults were enrolled in vocational education programs (National Center for Educational Statistics, 1983).

16. In 1981, it was estimated that minority students comprised about 25% of vocational education enrollment (American Vocational Association, 1981).

17. Vocational education served slightly over 30% of the 1,235,000 handicapped students enrolled in grades 9–12 in the nation in 1982 (based on 9.5% of secondary enrollment being handicapped) (Conaway, 1984).

These figures emphasize the fact that unless a strong commitment is made on the part of educators to provide special needs learners with the knowledge and skills needed to secure employment, the burden of providing for them will rest on the taxpayers of this country. The cost of social dependency programs such as unemployment, social security disability insurance, and welfare payments is high.

Vocational preparation for special needs learners in regular vocational programs usually exceeds the cost of preparing other students. Labeled "excess costs" the extra funds are required to provide support personnel, facilities modifications, adaptive equipment and aids, instructional materials, and curriculum alternatives necessary for these learners to succeed in a vocational program. It may be argued that education cannot afford these extra costs. However, the statistics reveal what it will mean to these students, to our economy, and to our society if these learners are allowed to leave school without a salable skill. Also, it must be emphasized that not all special needs students mainstreamed into regular programs will require these resources and modifications, and those who do may not need them continuously.

It is far more cost effective to educate special needs learners for competitive employment while they are in school than to train them through other programs. Vocational education programs represent the most practical way of providing opportunities for these individuals. Vocational teachers can contribute by joining the effort to match student interests and abilities to specific vocational skills. This effort will ultimately provide the labor force with a source of capable workers who will add to our economic system rather than deplete it.

LEGAL CONSIDERATIONS

Since the Civil Rights Act of 1964, legislation has been passed to ensure the educational rights of special needs individuals in this country. Before these laws existed, many handicapped and disadvantaged people were often ignored by society and were not considered to have the same rights as other citizens. Pressure from lobby and parent groups began to mount. These groups asserted that all human beings, as individuals, deserved to share the same rights. A great number of lawsuits were filed across the country demanding equal educational opportunities for all people. As a result, laws were passed to guarantee the rights of these individuals.

Vocational education is recognized as the most realistic method of assisting individuals to bridge the gap between education and employment. Therefore, the same rights to vocational training should be available to all students in our secondary and postsecondary schools. The legislation described in The Education for All Handicapped Children Act of 1975, The Rehabilitation Act of 1973, The Job Training Partnership Act, and The Carl Perkins Vocational Education Act of 1984 guarantee these rights.

The Education for All Handicapped Children Act of 1975 (Public Law 94-142)

This law, considered to be a civil rights bill for the handicapped, expresses a national commitment to provide a free and appropriate public education for every handicapped person between the ages of 3 and 21. It assures more than 8 million handicapped students in this country the right to develop their potential to the maximum. States and local school systems are required to provide all identified handicapped students with an education designed to meet their needs and abilities as well as related services necessary to aid them in school.

This far-reaching law contains six general themes for the handicapped: (1) a free, appropriate public education; (2) an individualized education program; (3) access to records; (4) the right of due process; (5) placement in the least restrictive environment; and (6) nondiscriminatory testing. Each of these provisions has implications for vocational teachers who are working with handicapped students in their programs.

1. A free, appropriate public education assures that a special education program with appropriate related services will be developed for each identified handicapped student. These students must be provided with the same educational opportunities that all other students enjoy, including access to vocational education programs that are realistic in light of their abilities and interests.

2. An individualized education program (IEP) is mandated for every handicapped student each year. This plan specifies long-range and short-term goals developed especially for the student as well as the support services that are required to meet those goals. Evaluation criteria are included in the IEP so that progress can be determined.

The IEP is developed by the teachers responsible for providing educational services to the student. If a handicapped student is enrolled in a vocational program, the vocational teacher should be involved in developing, implementing and evaluating this plan. A meeting is held with teachers, parents, and an administrator to discuss and approve the IEP. It is evaluated at least once a year and revised to meet the changing needs of the student.

Vocational teachers who have handicapped students in their programs should combine efforts with special education personnel and become involved in developing specific program objectives, participating in the IEP conference, and helping to evaluate the progress of the student. This topic is discussed in detail in Module 4.

3. The provision of access to records gives parents of handicapped students the right to view all records that are on file for their son or daughter. The parents also may ask to have changes made in the records if they believe the information is incorrect or misleading. Individuals 18 years or older have the right of access to their own records.

4. The right of due process guarantees that a specific procedure must be followed in thoroughly evaluating a student thought to be handicapped so that the decision regarding the proper educational placement is in the best interest of the student. Parents are involved in all steps of this evaluation and decision-making process. This guarantee prevents schools from placing students in special education programs who do not belong there.

5. Placement in the ''least restrictive environment'' gives handicapped students the right to be placed in regular education programs whenever possible or programs that do not restrict their abilities.

Handicapped students can only be placed in separate classes or programs when it can be shown that the student cannot succeed in the regular program even with the aid of appropriate support services. This provision means that more and more handicapped students will be mainstreamed into regular vocational progams where they can learn to function in a normal environment rather than in isolated classrooms. Support services will help the vocational teacher work with these students.

6. The guarantee of nondiscriminatory testing means that the tests used to evaluate handicapped students cannot be racially or culturally biased and must be administered in the language spoken in the student's home. This provision also states that the results of only one test cannot be used to make a decision about placing the student. A variety of test results must be considered before a decision can be made.

The Rehabilitation Act of 1973 (Public Law 93-112): Sections 503 and 504

In the past, employers were encouraged to hire handicapped persons by being told that it was good for business. It was presented as an economic issue. However, even though employer studies have shown that handicapped workers perform as well on the job as nonhandicapped workers, affirmative action hiring was not taking place.

Section 503 of this Act represents a historic step to provide employment opportunities for handicapped individuals. Any employer receiving federal assistance in the form of contracts for $2,500 or more is required to develop an affirmative action plan to recruit, hire, train, and advance in employment handicapped individuals. Employers receiving federal contracts for $50,000 or more and having 50 or more employees must develop and implement an affirmative action program within 120 days that outlines specific policies and procedures regarding handicapped individuals. This program must be reviewed and updated once a year.

Section 503 also requires that employers make a ''reasonable accommodation'' for handicapped workers. This means that specific changes must be made to the work environment to meet the needs of the handicapped worker. These changes may require, for instance, that a work table be raised or lowered to accommodate a handicapped employee or that a blind employee be provided with a tape recorder. This requirement does not mean that an employer must assume a huge financial hardship, as in totally rebuilding or renovating a facility, in order to make the work environment accessible. Funds are available to help employers make appropriate changes to the work site.

This move to regulate the hiring, training, and promoting of qualified handicapped persons represents a positive step in providing this population with employment opportunities to help them achieve economic independence. As federal contractors and subcontractors begin to actively recruit handicapped individuals for available positions, they will look to existing vocational programs for assistance in identifying and attracting qualified handicapped persons who have the requisite skills for employment.

Section 504 of this law, passed in 1977, guarantees basic civil rights for handicapped individuals. This means that qualified handicapped individuals cannot be denied access to private or public programs and activities that receive HEW funds solely because of their disability. This includes all public secondary and postsecondary facilities.

According to the 504 regulations, the term "handicapped" includes those individuals who have impairments or conditions such as "speech, hearing, visual and orthopedic impairments, cerebral palsy, epilepsy, muscular dystrophy, multiple sclerosis, cancer, diabetes, heart disease, mental retardation, emotional illness, and specific learning disabilities." In addition, alcohol and drug addicts are also considered handicapped individuals. Clearly, this will include a great many more people than were previously considered to be handicapped.

Discrimination is no longer allowed in educating handicapped individuals, in admitting them to vocational programs, or in providing them with equal employment opportunities. Fair treatment of the disabled in each of these areas is now the rule. Section 504 assures a free, appropriate public education for the handicapped with any necessary related services. Handicapped students must be placed in regular programs to the maximum extent possible with supplementary aids and services to help them succeed. This includes access to vocational programs. Specific modifications may have to be made to vocational facilities and programs in order for this population to have access to them.

Specific requirements are set forth for secondary and adult education programs, postsecondary education programs, and employers. Public elementary or secondary programs must provide handicapped students the opportunity to participate in existing services such as regular program options, nonacademic services, extracurricular activities, school-sponsored interest groups and clubs, and counseling services. Evaluation procedures used to assess the aptitude or achievement level of the learner must be appropriate and must be administered periodically. An individualized education program (IEP) must be developed and implemented for each handicapped individual according to the guidelines set forth in Public Law 94-142 (Education for All Handicapped Children Act). In addition, reasonable accommodation must be made to assure that programs, services, and facilities are accessible to the handicapped.

Postsecondary programs cannot discriminate against handicapped individuals in recruitment or admissions. Admission quotas cannot be used. Any admission tests, including standardized tests, must be selected and administered so that the tests record the aptitude or achievement level of the student rather than the disability. Reasonable modifications must be made to ensure accessibility to programs, services, and facilities. Modifications, such as extended time for completing course or degree requirements and adapting the manner in which the course is taught, must be made according to the specific needs of the individual. In addition, auxiliary or support aids must be provided as necessary. These aids might include special equipment or classroom aids for physically handicapped learners, interpreters, library readers, cassette recorders, and taped text information. Often these aids can be provided by outside agencies or organizations.

Employers may not discriminate against qualified handicapped persons in recruitment, hiring, or promotion on the basis of their disability. Employers are required to make facilities accessible, modify work schedules, restructure jobs, and provide for the modification of necessary equipment or devices. However, the extent or cost of these accommodations cannot create an undue hardship on the employer. Preemployment medical examinations or specific questions regarding the handicapping condition are not allowed under the 504 regulations.

The Job Training Partnership Act (Public Law 97-300)

The Job Training Partnership Act (JTPA) was passed by Congress in 1982. It was intended to replace and improve upon the Comprehensive Employment and Training Act (CETA) and to increase the role of private business and industry in the training and employment of disadvantaged youth and adults.

The purpose of the Job Training Partnership Act (JTPA) is to establish programs to prepare youth and unskilled adults for entry into the labor force and to afford job training to those economically disadvantaged individuals and other individuals facing serious barriers to employment.

This act represents partnership between the public and private sectors. Federal funds are directed by states to local or regional service delivery areas, each of which must have a private industry council (PIC). The PIC is responsible for deciding the type of training to be provided in their specific service delivery area (SDA) and is composed of local business leaders and officials, organized labor, rehabilitation, employment, economic development, and education. A Job Training Coordinating Council, appointed by the governor, shares decision-making authority. One-third of the state council members must be from business and industry.

JTPA provides for (a) basic job training, (b) training services for the disadvantaged, (c) an employment and training program for dislocated workers, (d) federally administered job training programs (e.g., Job Corps, a Native American Program, Veteran's Employment Program), and (e) related training and support services.

Some of the specific services that are available to individuals who qualify include:

1. job-search assistance,
2. job counseling,
3. remedial education and basic-skills training,
4. vocational exploration,
5. literacy and bilingual training,
6. job development,
7. pre-apprenticeship training, and
8. follow-up services.

Wages, stipends, or public service jobs are not provided by JTPA funds.

This law specifically defines eligibility as "any individual who has a physical or mental disability which for such an individual constitutes or results in a substantial handicap to employment." Therefore, some handicapped individuals can qualify for the program based on the definition of *economically disadvantaged* if they meet the income requirements. These requirements are based on the income of the individual rather than on family income, which provides for greater particiption by handicapped persons.

The Carl D. Perkins Vocational Education Act of 1984 (Public Law 98-524)

As an overview of the evolution and development of vocational legislation as it relates to special needs learners, the following historical perspective is provided that brings the reader to the most recent vocational education mandate, Public Law 98-524.

(1) *The Vocational Education Act of 1963 (Public Law 88-210).* This law recognized that individuals with special needs require assistance in order to achieve success in regular vocational programs. This was the beginning of a movement to provide opportunities to develop vocational potential in the form of salable skills for the competitive labor market.

This act stated that vocational education should be available to "persons who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational education program." It provided for access to vocational training and retraining for all people according to interests, needs, and abilities.

However, few vocational education resources were made available to special needs students as a result of this law. A national survey, conducted three years after this law went into effect, identified only 79 programs in 12 states that were preparing these students with vocational skills. In reality, the law had served primarily to focus attention on the need to provide vocational education opportunities for this population.

(2) *The Vocational Education Amendments of 1968 (Public Law 90-576).* This legislation further emphasized the need to provide vocational education skills for special needs learners. It separated this population into two distinct categories—disadvantaged individuals and handicapped individuals. Separate vocational programs were discouraged except when they were in the best interest of these students. Otherwise, students were expected to be integrated into regular programs and provided with appropriate support services and resources.

In order to aid states in providing these services, the law allocated federal funds such that, for any fiscal year, a state must use at least 10% of its basic vocational funds to provide programs for the handicapped and 15% of the basic vocational funds to provide programs for the disadvantaged.

These funds can be used only to provide services over and above those available to all students in regular vocational programs. For example, the funds can be used to provide many services that would be helpful to the vocational teacher in working with special needs learners. Some of the resources that could be provided by these funds include (a) staff development, (b) flexible scheduling, (c) recruitment activities to reach potential employers, (d) curriculum modifications, (e) equipment modifications, (f) development of appropriate instructional materials, (g) specific educational services to assist special needs students to succeed in vocational programs, and (h) additional staff to coordinate and supervise work-study programs.

(3) *The Education Amendments of 1976, Title II (Public Law 94-482).* Public Law 94-482 should be understood in relationship to the regulations stated in Public Law 94-142 and Sections 503 and 504 of the Rehabilitation Act of 1973. These laws complemented one another as the content was similar. Public Law 94-482 emphasized the need to prepare all students for employment or continuing vocational technical education. It therefore attempted to assure that handicapped and disadvantaged individuals were granted equal access to programs and services that they have often been denied. States wishing to receive federal vocational education monies were required by law to meet certain requirements.

States had to expend 10% of the funds from their basic state grants to provide vocational education opportunities for handicapped students and 20% for disadvantaged students. Set-aside funds allotted for vocational education for disadvantaged persons were to be used primarily in areas of high youth unemployment or school dropouts.

These federal funds had to be matched on a 50-50 basis with state and local funds. All money was used to assist special needs learners in regular existing vocational education programs whenever possible.

Federal set-aside funds for vocational education for handicapped persons were used for purposes that matched the goals stated in Public Law 94-142. As a result, handicapped students were to be educated and enrolled in regular vocational programs to the greatest extent possible in order to satisfy the requirement for the least restrictive environment. The specific nature of the vocational education program goals and objectives for each handicapped student should be planned and implemented according to the contents of the IEP.

The state plan for vocational education was parallel with the state plan for the education of handicapped students. Specific provisions for providing programs and services for special needs learners were included in annual and five-year state plans developed for vocational education.

National and state advisory councils for vocational education included one or more persons who had special knowledge about the needs of poor and disadvantaged individuals. The input from members of the advisory council was essential because it affected decisions made about vocational education opportunities for special needs individuals.

(4) *The Carl D. Perkins Vocational Education Act (Public Law 98-524).* The Carl D. Perkins Vocational Education Act was signed by the President of the United States on October 19, 1984 and extends the federal leadership role in vocational education for five years, through fiscal year 1989. There are two broad themes:

1. Making vocational education programs accessible to all persons, including handicapped and disadvantaged persons, single parents and homemakers, adults in need of retraining and training, persons participating in programs designed to eliminate sex bias, and stereotyping in vocational education, and incarcerated persons; and
2. Improving the quality of vocational education programs in order to give the nation's workforce the marketable skills needed to improve productivity and promote economic growth.

Under Title II, Part A, identified as the Vocational Education Opportunities Program, a state must use 57% of the funds available for programs under the basic state grant for vocational education projects for special needs individuals. The specific breakdown of the mandated set-aside funds for special needs populations is as follows:

Handicapped individuals	10 %
Disadvantaged individuals	22 %
Adults in need of training or retraining	12 %
Single parents and homemakers	8.5%
Individuals participating in programs to eliminate sex bias and stereotyping	3.5%
Criminal offenders	1 %
	57 %

Public Law 98-524 has changed the definitions from the Vocational Education Amendments of 1976 (P.L. 94-482) to the following definitions for special needs populations:

Handicapped - individuals who are mentally retarded, hard of hearing, deaf, speech or language impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities, who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance.

Disadvantaged - individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school.

Academically Disadvantaged - an individual who scores below the 25th percentile on a standardized achievement or aptitude test, whose secondary school grades are below 2.0 on a 4.0 scale (where the grade "A" equals 4.0) or fails to attain minimal academic competencies.

Economically Disadvantaged - an individual who comes from a family who the state board identifies as low income on the basis of uniform methods, such as

(a) annual income at or below the official poverty line;
(b) eligibility for free or reduced priced school lunch;
(c) eligibility for AFDC or other public assistance programs;
(d) receipt of a Pell grant or comparable state program of need-based financial assistance;
(e) eligibility for participation in programs assisted under Title II of JTPA.

Limited-English-Proficiency - includes

1. individuals not born in the United States or whose native language is a language other than English,
2. individuals from environments where a language other than English is dominant, and
3. American Indian and Alaskan native students who come from environments where a language other than English has had a significant impact on their level of English language proficiency.

These individuals have difficulty speaking, reading, writing, or understanding the English language, which denies them the opportunity to learn successfully in a classroom where the language of instruction is English, or to participate fully in our society.

Single Parent - an individual who

1. is unmarried or legally separated from a spouse, and
2. has a minor child or children for which the parent has either custody or joint custody.

Homemaker - an individual who

1. is an adult, and
2. has worked as an adult primarily without remuneration to care for the home and family and, for that reason, has diminished marketable skills.

Criminal Offender - any individual who is charged with or convicted of any criminal offense, including a youth offender or a juvenile offender.

Correctional Institution -

1. prison
2. jail
3. reformatory
4. work farm
5. detention center, or
6. halfway house, community-based rehabilitation center or any other similar institution designed for the confinement or rehabilitation of criminal offenders (P.L. 98-524).

PROVISIONS FOR HANDICAPPED AND DISADVANTAGED LEARNERS

Funds set aside for the handicapped and disadvantaged (the 10% and 22% set-aside funds, respectively) can only be used for supplemental or additional staff, equipment, materials, and services not provided to other individuals in vocational education. This law provides that the following services and activities must be made available to all handicapped and disadvantaged individuals participating in any vocational education program:

1. equal access in recruitment, enrollment, and placement activities;
2. equal access to the full range of vocational education programs available to nonhandicapped and nondisadvantaged individuals;
3. assessment of individual interests, abilities, and special needs with respect to successful completion of the vocational education program;
4. special services, including adaptation of curriculum, instruction, equipment, and facilities designed to meet the special needs of these individuals;
5. guidance, counseling, and career development activities conducted by professionally trained counselors; and
6. counseling services designed to facilitate the transition from school to employment or career opportunities (Section 204).

In addition, the local educational agency has a responsibility to provide information to handicapped and disadvantaged students and their parents about the available opportunities in vocational education at least one year before these learners enter vocational education. Although the Vocational Education Amendments of 1976 (P.L. 94-482) allowed for the full costs of separate vocational programs, this law provides for only 50% of the costs of services and activities of separate programs that exceed the average per pupil expenditures of regular programs.

Separate programs for handicapped and disadvantaged students will be discouraged in the future due to this new provision. Mainstreaming special needs learners in regular vocational programs and providing them with appropriate support services is expected to increase during the next five years of authorization.

Specific Guidelines for Handicapped Learners

Vocational education programs and activities for handicapped learners must be provided in the least restrictive environment mandated in the Education for All Handicapped Children Act of 1975 (P.L. 94-142). Whenever appropriate, these programs and activities must be provided as a component of the learner's individualized education program (IEP). Planning should be done with the coordination of appropriate representatives of vocational education and special education.

Specific Guidelines for Disadvantaged Learners

Each state may use a portion of the 22% set-aside funds for disadvantaged individuals to design activities that will increase equal access to vocational education programs for disadvantaged individuals. This portion can also be used to pay the costs of services and activities applying the latest technological advances to instructional programs or to purchase state-of-the-art tools and equipment if the enrollment of the school is at least 75% economically disadvantaged.

A local district can contract with a community-based organization (CBO) if the vocational education programs in that district cannot meet the needs of disadvantaged students of if the district decides that the CBO can better meet the needs of these learners. A CBO, as defined by Public Law 98-524, means a private nonprofit organization which is representative of the community or significant segments of communities and which provides job training services (e.g., National Urban League, Vocational Rehabilitation organizations, United Way). Activities of CBOs may include:

1. outreach programs that facilitate the entrance of youth into a program of transitional services and subsequent entrance into vocational education, employment, or other education and training;
2. transitional services such as attitudinal and motivational prevocational training programs;
3. prevocational education preparation and basic skills development, conducted in cooperation with business concerns;
4. special prevocational preparations programs targeted to inner-city youth, non-English-speaking youth, Appalachian youth, and the youth of other urban and rural areas having a high density of poverty who need special prevocational education programs;
5. career intern programs;
6. the assessment of students' needs in relation to vocational education and jobs; and
7. guidance and counseling to assist students with occupational choices and with the selection of a vocational education program.

Cobb and Kingsbury (1985) state that:

> The new act [(P.L. 98-524)] is a dynamic and forward-thinking piece of legislation, reflecting the promise vocational education holds for students with special needs. Its bold initiatives foreshadow accelerated employment training and opportunities for groups of individuals who share a history of high unemployment and underemployment. The manner in which these initiatives are prescribed clearly reflects the vocational education community's concern not only for increased access for special students but for increased quality as well. (p. 34)

THE MAINSTREAMING EFFORT

Enrollment in vocational classes for special needs learners is generally accomplished through mainstreaming. Not every handicapped and disadvantaged student can or will be integrated into regular vocational programs. However, each learner, as an individual, must be given the chance to develop his or her vocational potential to the maximum degree.

Mainstreaming is a method of assuring equal access, which involves an educational placement procedure and process for special needs individuals. It is based on the conviction that each person should be educated in the *least restrictive environment* in which that person's educational and related needs can be satisfactorily met. Mainstreaming also means that proper support services and resources necessary for each special needs learner must be provided. This will make the task of providing appropriate training for these students much easier for vocational teachers. Therefore, the total responsibility for preparing these students with a salable skill will be shared. The technical knowledge and skills represented in vocational departments must be combined with the expertise of special education teachers, counselors, basic skills teachers, the support of agencies, and the aid of resource personnel if the mainstreaming process is to be successful. Through coordination and cooperation, it will be possible for special needs learners to experience success in regular programs.

There have been many reasons for the reluctance of vocational teachers to work with special needs learners in the past. Reasons commonly cited for this reluctance include negative attitudes, stereotyping thinking, and misconceptions about special needs students. For instance, one vocational teacher expressed the belief that special needs students prefer dull, repetitive work, thus not requiring the extensive vocational training offered in vocational programs.

Another factor contributing to a reluctance in working with special needs learners has been the practice of placing students into existing vocational classes without adequately preparing either the student or the teacher. In some cases, information about special needs learners has been withheld from vocational teachers. Appropriate support services have been lacking. Problems associated with placing students in appropriate employment situations after they have received training has been a frustrating experience for some teachers.

Addressing the issues related to vocational education for special needs students is an enormous task that calls for an increased commitment to serve these students. The key to increased commitment involves a new openness accompanied by fresh approaches in preparing for the task.

Today, the level of commitment of vocational teachers toward serving special needs students is rapidly increasing. Vocational teachers, special education teachers, special needs support personnel, counselors, school administrators, and interested members of the community at the local school level are learning how to work together effectively to meet the challenge of educating these learners.

Within the past several years, the preparation of school personnel, including vocational teachers, has emerged as a top priority. Many state and local school systems have recognized the need for teacher education for those who work with or will be working with special needs students. Programs at the state and local levels have been conducted to assist educators to understand the need for their participation in this endeavor. Teacher preparatory programs have focused on the development of necessary competencies to work with special needs learners. Effective curriculum materials have been developed. A number of states have mandated course work in the area of special needs a certification requirement for vocational and academic teachers.

As local schools respond to the mandates of equal rights legislation, mainstreaming efforts are increasing. More special needs students are being placed in regular vocational classes and appropriate support services are being provided to help these students succeed.

Attitudinal barriers are beginning to dissolve. The negative attitudes held by vocational teachers in the past toward serving special needs students are beginning to change. Many of these teachers are now actively involved in mainstreaming efforts. They are learning that special needs students can be successful in vocational programs when necessary support services are available. As these learners succeed, vocational teachers feel an increased sense of confidence in their effectiveness as teachers.

Without the continuous commitment of all educators, as well as the provision of appropriate educational opportunities and support services, special needs students will continue to experience great difficulty in becoming self-sufficient, productive workers. Moreover, vocational teachers will be deprived of the opportunity to share their knowledge and skills with these students. The end result of the lack of commitment of vocational teachers will be the unacceptable, age-old problem of waste, idleness, and dependency. Brody-Hasazi, Salembier, and Finck (1983) report that:

> Prior to the early 1970's most secondary special education programs focused on the acquisition of skills and knowledge not mastered at the elementary level, such as functional reading, functional arithmetic, and self-care. Today, since many students have already acquired these skills prior to entering secondary level programs, these students and their parents now expect the curriculum to include those vocational skills necessary to secure employment following graduation from high school. In order to achieve this goal, special and vocational educators have worked together to increase the numbers of mildly handicapped students in mainstream vocational programs. Some handicapped students require only minor adaptations in the regular vocational curriculum, while others need individualized programs and additional work placement experiences. (p. 206)

The mainstreaming philosophy recognizes that all learners are different from each other, and many of them have special problems that may prevent them from participating in some program activities. However, this does not justify their exclusion from all regular program activities. Handicapped and disadvantaged learners have a wide range of educational needs that vary in duration and intensity.

There should be a continuum of educational settings available to allow for individual differences while at the same time providing for appropriate support services to meet learner limitations. Mainstreaming does not call for indiscriminately ''dumping'' these learners into educational settings that are impossible for them to succeed in. The concept does encourage placing these individuals in an educational environment that is least restrictive to their abilities and providing for learning experiences with their peer group to the greatest extent possible. Mainstreaming, if implemented correctly, helps to ensure the correct educational placement for each learner, provides for individualized planning, and allows for as much extra support from professional specialists as each learner requires.

An effective mainstreaming process for special needs learners in vocational programs should incorporate the following elements:

1. development of a positive attitude on the part of teachers, administrators, and educational personnel;
2. assessment of the abilities and limitations of each special needs learner (e.g., student interest inventories, behavioral information, academic performance, work experiences, prevocational background, career development background);
3. development of a concept of the work ethic by students (i.e., work as a positive reinforcer and contribution to society);
4. development of realistic, obtainable career goals developed cooperatively by teachers, support personnel, parents, and the special needs learner;
5. removal of detrimental, overgeneralized labels and substituting a solid profile of individual abilities and limitations;
6. sharing of appropriate information among professionals working with special needs learners and use of this data to develop effective instructional programs;
7. development and implementation of cooperative instructional arrangements through individualized learning plans;
8. availability of flexible scheduling and extended time in a program, if necessary, to develop required competencies;
9. utilization of instructional techniques that match the strong learning styles of students; and
10. frequent assessment of learner progress through competency-based measures.

Figure 1.1 presents an overview of facilitators to an effective mainstreaming process.

COMPETENCIES FOR WORKING WITH SPECIAL NEEDS LEARNERS

Vocational teachers are faced with a great challenge as a result of the equal rights legislation for special needs individuals. Handicapped and disadvantaged students mainstreamed into vocational programs will require that vocational teachers be assisted through appropriate resources and support services.

The funds made available through legislation will benefit the educational programs for special needs learners. This money can be spent in a number of ways to help these students succeed in vocational programs. For instance, program and curriculum modifications, special materials, and equipment and facilities modifications can be provided from federal and state set-aside funds.

The laws granting equal rights to special needs people are here to stay. Rather than offering these people pity, educators must begin to provide them with opportunities to develop their vocational potential. With inservice training and cooperative planning among professional personnel, preparing these learners for competitive employment can be a shared task.

Two personal-social qualities that vocational teachers should possess are patience and perseverance. Through occupational experience most vocational teachers probably have learned to exercise both patience and perseverance in getting a job done safely and correctly. Vocational teachers will need to use these two qualities with special needs students who often require more time to learn a task and may be easily discouraged from completing a job if they encounter difficulty.

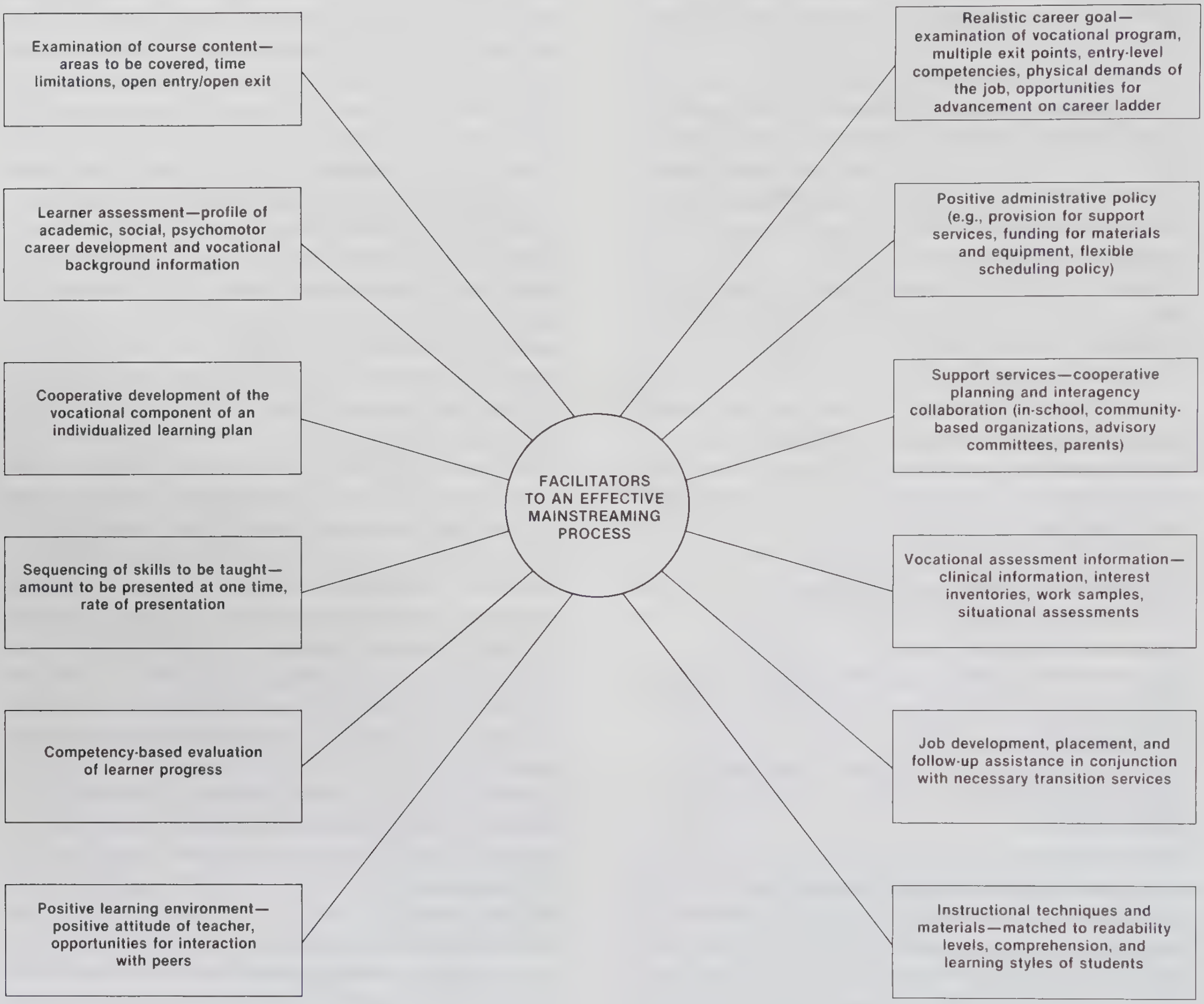
Open-mindedness and adaptability are also very important qualities for a teacher of special needs students. Facilities, machinery and equipment, instructional techniques, and curriculum must sometimes be modified to meet the needs of these learners, while still maintaining program and employment standards. Vocational teachers, as workers, should be willing to make necessary adjustments in standard procedures to satisfy or accommodate unique situations. They have learned to make the best of any situation when ideal tools or materials to complete a job have not been available. Therefore, many vocational teachers will not have difficulty in making the necessary modifications required to meet the special needs of their students. Open-mindedness to change will facilitate these necessary changes.

Another personal-social quality needed by vocational teachers in working with special needs students is pride in their area of expertise. Through occupational experience vocational teachers have learned to strive for the best possible work performance. They have learned that it is rewarding to produce a high quality product or provide a high quality service. Special needs learners should be encouraged by example to have the same attitude by striving for excellence in the quality of their work.

The teacher serves as a role model by exhibiting the personal-social qualities of patience, perseverance, open-mindedness, adaptability, and pride in his or her occupational area and by providing excellent patterns of behavior for special needs students to learn. Possessing appropriate personal-social qualities is as important as having a good command of the knowledge and skills of an occupation.

Figure 1.1

FACILITATORS TO AN EFFECTIVE MAINSTREAMING PROCESS


FACILITATORS TO AN EFFECTIVE MAINSTREAMING PROCESS
Examination of course content—areas to be covered, time limitations, open entry/open exit
Learner assessment—profile of academic, social, psychomotor career development and vocational background information
Cooperative development of the vocational component of an individualized learning plan
Sequencing of skills to be taught—amount to be presented at one time, rate of presentation
Competency-based evaluation of learner progress
Positive learning environment—positive attitude of teacher, opportunities for interaction with peers
Realistic career goal—examination of vocational program, multiple exit points, entry-level competencies, physical demands of the job, opportunities for advancement on career ladder
Positive administrative policy (e.g., provision for support services, funding for materials and equipment, flexible scheduling policy)
Support services—cooperative planning and interagency collaboration (in-school, community-based organizations, advisory committees, parents)
Vocational assessment information—clinical information, interest inventories, work samples, situational assessments
Job development, placement, and follow-up assistance in conjunction with necessary transition services
Instructional techniques and materials—matched to readability levels, comprehension, and learning styles of students

Vocational teachers should demonstrate certain professional competencies that are beneficial in working with special needs learners. Generally, they have developed a high level of knowledge and skills in their particular area of expertise. Therefore, they should be able to identify the component parts that make up each work task. Special needs learners often need to receive instruction in smaller, more basic steps. Because of their concrete, cumulative nature, many vocational tasks readily lend themselves to task analysis.

A second competency that vocational teachers should exhibit is the ability to provide ongoing reinforcement of student performance. The tangible nature of vocational tasks allows teachers to design appropriate learning experiences for special needs learners and to continuously observe student performance. Therefore, vocational teachers have an excellent opportunity to provide immediate and continuous reinforcement to special needs learners.

Another competency needed by vocational teachers is the ability to design, develop, and utilize individualized instruction. Individualized instruction enables teachers to use their facilities and equipment to the maximum and to better meet the needs of their students. The tangible, cumulative nature of many vocational tasks affords an excellent opportunity for teachers to design and utilize an individualized instruction delivery system.

Vocational teachers must also stay up-to-date with technology and changes in the field. It is also crucial that they work closely with local business and industry so that opportunities for special needs learners can be arranged (e.g., part-time jobs, internships, shadowing experiences, etc.).

A final competency needed by vocational teachers in working with special needs learners is the ability to plan and work cooperatively with other school personnel. The education of special needs learners requires the cooperative efforts of teachers, system-wide support personnel, parents, and the community. Vocational teachers, being committed to the goal of providing the best possible education for their students, welcome the opportunity to work with other educators, community volunteers, and parents in helping these learners develop knowledge and skills required to become independent workers and contributing members of our society.

Some specific competencies that are helpful for vocational personnel who work with special needs learners include the ability to

1. prepare members of the regular class for the entry of ''special'' students into the class;
2. gather information to determine the educational needs of each student;
3. evaluate each student's present level of functioning;
4. determine for each student in the class individual goals that are appropriate, realistic, and measurable;
5. work with parents so that career goals are reinforced at home;
6. determine group goals for the class as a whole and for subsets within the class;
7. assist students in defining goals and objectives that are realistic in terms of their special limitations;
8. provide career counseling;
9. develop a system for reinforcing students that is both positive and effective;
10. develop the ability to build the self-confidence in special needs students by identifying their hidden strengths, channeling them in productive directions;
11. design a system of teaching procedures that provides for individual differences in learners;
12. acquire, adapt, and develop materials necessary to achieve learning goals;
13. determine successful methods to evaluate students by their individual achievements and abilities without lowering the standards for the entire class (e.g., competency-based instruction);
14. organize a system to collect and record data by which to evaluate student progress toward established goals;
15. develop a feedback system that will furnish continuous data to the learner, other teachers, and parents relative to student progress;
16. utilize the evaluation data to measure outcomes and set new goals;
17. provide placement and follow-up services; and
18. provide transition services with the assistance of other professionals and agencies.

LOOKING TO THE FUTURE

In order to look to the future one must review events of the past to identify key points and possible trends in such areas as demography, the labor force, the economy, societal expectations, education, high technology, and conservation of energy. Anticipating what the future holds is a bold but necessary function for vocational teachers who must plan for the continuation of programs and services. Futuristic thinking is often phrased in such questions as: What will vocational education be like in the 1990s and beyond? What key decisions will affect vocational education? Will the progress made in the last decade of improving services for special needs learners in regular school programs continue and expand?

Answers to these questions depend on the perspective of the individual. Those who hold an optimistic attitude may see changes in vocational education and vocational special needs education as opportunities to expand and improve programs and services. On the other hand, those who hold a pessimistic attitude may see unavoidable change as detrimental to the progress made since the 1960s in serving special needs students in vocational education.

Public education, including vocational education, has without question received greater attention in the past two years than ever before. National attention focused on public education through the report, *Nation at risk* (National Commission on Excellence in Education, 1983). Since that initial report, over 100 reports focusing on ''excellence'' in schools have been released. These reports have resulted in educational reform, task forces, and commissions in nearly every state in the nation. The reports filed by these commissions and task forces have been highly publicized and have resulted in rapid changes that have been both helpful and harmful for vocational education and vocational special needs education.

Examples of frequently suggested reforms include higher academic graduation requirements, longer school days, extended school years, more homework, more rigorous discipline, more credit hours in academic subjects, fewer elective subjects, mandatory teacher and student competency testing, and the list goes on.

The nation's public wants excellent, effective schools that prepare people for economic independence and a satisfying productive life. Many of the national and state reports suggest that our schools, as a whole, are not doing as well as might be expected. What kind of educational experiences should be offered in schools? Is the best preparation for the "good life" a strictly academic preparation or is it a strong program in basic academic subjects with opportunities for vocational exploration and preparation? These questions and many others are being asked throughout our nation as educators and the general public grasp for a satisfactory definition of "excellence" in education. The excellence outcome of this educational upheaval will clearly have an impact on vocational education in general, and vocational special needs education in particular. A serious concern of vocational special needs educators is whether the demands for excellence in education overshadow the concerns of access and equity in education, which have been a national priority for our public schools in the past two decades (Phelps, 1985).

In order to make educated guesses as to what the future may hold for vocational education and vocational special needs education, it is helpful to consider some of the trends, events, and issues that are shaping the future. The National Center for Research in Vocational Education conducted a two-year study to identify and synthesize information that could result in projecting what vocational education will be like in the 1990s. The National Center Report entitled *Vocational education: A look into the future* was released in 1981.

The following trends and developments likely to influence vocational education were presented in the National Center Report:

1. The relative number of young people between the ages of sixteen and twenty-four will drop sharply between 1977 and 1985.

2. There will be a rise in the proportion of the population in the thirty-five through forty-four and sixty-five plus age groups.

3. The relative number of minorities and limited-English-speaking people in the younger age groups will increase.

4. Growing fiscal conservatism in the nation will increase competition for public dollars.

5. Advancements in technology will continue, causing further need for a highly skilled work force.

6. There will be a growing emphasis on increasing the productivity of the American worker.

7. The proportion of federal to state and local dollars for vocational education will remain approximately one to ten.

8. Formal agreements of cooperation between many vocational education institutions, business, industry, labor, JTPA, and other training providers will be formulated.

The policy initiatives expected to be emphasized in the 1980s were identified in the report as follows:

1. emphasis on attending to the needs of special populations (disadvantaged, limited-English-speaking, handicapped);

2. additional accountability requirements for the purposes of program improvement;

3. the elimination of sex bias and stereotyping within programming and services;

4. preparation for employment with specific focus on unemployed youth;

5. the role of vocational education in the promotion of state and local economic development; and

6. the role of vocational education in responding to the need for the conservation of energy.

The National Center staff used these trends and policy initiatives in their cross-impact analysis study to develop a "standard world scenario." This scenario is a description of what vocational education probably will look like in 1990 if projected trends continue, anticipated policy initiatives are implemented, and no major national or global events occur that would affect the scenario drastically.

In general the National Center report, *Vocational education: A look into the future,* indicates that vocational education will probably become more diverse with regard to the people it serves, the kinds of services it provides, and the methods it selects to deliver these services. The following are selected features of the standard world scenario:

- A continuing, strong federal emphasis on meeting the needs of special populations with a portion of federal vocational funds designated to be spent for targeted special needs groups.
- A higher proportion of minority students enrolling in vocational education programs due to increases in the relative numbers of minorities among school age youth.
- Increasing numbers of educationally disadvantaged students enrolling in vocational education programs, requiring increased emphasis on basic

education and work skills.

- Accountability for vocational education will continue to be high with sustained emphasis on job and educational placement as evaluative criteria.
- Vocational educators will utilize numerous strategies to reduce youth unemployment; however, strong external forces will blunt the impact of those efforts. In areas where labor shortages exist, vocational education will prove to be partially effective in reducing youth unemployment.
- Vocational education will become more actively involved in economic development through retraining workers, ensuring an adequately trained workforce, and supplying labor needs for new businesses and industries.
- The high cost of replacing obsolete and broken equipment and purchasing new equipment will encourage vocational educators to seek innovative new approaches for delivering training, including more cooperative arrangements with employers and increased training being delivered at the worksite.
- Vocational administrators will have to function in multiple roles as financial constraints in schools limit the utilization of subject matter specialists.
- Vocational teachers will continue to struggle with the problem of keeping pace with technological changes which date their knowledge and skills and effectiveness in providing quality vocational education for students.

The National Center report also presents a summary of how the trends and policies previously cited may affect special needs populations. These findings are as follows:

Planning

1. There will need to be changes in instructor preparation and improvements in curriculum to meet the needs of special populations.

2. It will be necessary to strengthen special programs and services.

3. The increased technical nature of jobs will pose additional problems for special populations. There will be a need to emphasize basic skills and realistic on-the-job training.

4. It will be necessary to work cooperatively with business and industry to provide realistic learning settings.

Implementation

1. There may be some competition for resources from older adults, who may themselves be members of special populations.

2. Emphasis on worker productivity could lead to a turning away from special populations in favor of working with changing student work attitudes and values, and increasing program flexibility to include allowing more time for special population students to attain competence.

3. Vocational educators may have to work more closely with employers in helping them to accept the limitations of special population workers and in allowing for follow-up training.

4. Effective agreements with business and industry should enhance the chances that the training needs of special populations will be better met. Some questions emerge, however, as to the extent to which training will enhance employment opportunities in times of high unemployment.

5. A federal initiative to eliminate sex bias and discrimination is seen as slightly diminishing vocational education's attendance to the needs of special populations. This is not due to any conflict or incompatibility of the initiatives; instead it is a matter of competition for scarce resources. It is felt by some that attending to the needs of special populations would also involve some elements for reducing sex bias, and that any efforts to do so would be mutually enhancing.

6. An involvement in state and local economic development should slightly enhance the amount of attention paid to special populations, especially as the number of new labor force entrants decreases.

Outcomes

1. An emphasis upon meeting the needs of the disadvantaged will continue.

2. All needs will probably not be met. Research and development can help to identify the best ways to address those needs that vocational education can address.

3. Increased fiscal conservatism will hinder services to and programs for special populations. The better organized and more emotionally appealing groups will suffer less.

4. If federal funds do not increase and the ratio of state/local to federal dollars remains the same, attempts to meet the needs of special populations will be hampered. Federal resources will probably continue to be targeted to such groups.

5. Increased accountability requirements will result in increased attention to the needs of special populations

6. Increased attention toward preparation for employment with a focus on unemployed youth is an effort that should also assist in meeting the needs of special populations.

The future of vocational special needs education looks bright despite (a) national concerns of a declining youth population, (b) an uncertain economy, (c) a continuing shift in labor market opportunities from an industrial-manufacturing base to a service-oriented, information processing, high technology-research base, (d) intense international competition for the production of goods and services, (e) an unacceptably high rate of unemployment (particularly youth unemployment), and (f) a crisis in the level of confidence in our nation's public schools. These national concerns will have effects on vocational special needs education and the challenge is to make these efforts as positive as possible. For example, as the number of competent high school graduates entering the labor market increases, business and industry will likely change their opinion of young adults and consider them more desirable as workers. It is expected that employers will also be more open to employing special needs learners and providing the changes in job designs to attract these new workers.

The Carl Perkins Act of 1984 (P.L. 98-524) mandates the continuing emphasis on providing quality vocational education for special populations. This federal legislation will continue to provide incentives for state and local governments to provide education and services to meet the needs of special populations. Vocational special needs educators have been provided with a powerful incentive to prepare students with vocational education experiences that will assist them in gaining the knowledge and skills required to enter existing and new jobs in the rapidly changing labor market or to further their education.

SUMMARY

In the past two decades, the rights of handicapped and disadvantaged individuals have been raised as a strong public issue. Although traditionally these individuals have often been overlooked and denied the rights afforded to others, public schools and postsecondary institutions have been trying to remove the barriers that confront special needs learners. Mandates have provided the incentive for public schools to provide access and equity into regular school programs (including vocational programs) for special needs learners.

There are several major reasons why special needs learners must be provided with vocational education opportunities. First, there is the economic consideration of high unemployment and the resulting high cost of dependency programs to support them. Those special needs individuals who do obtain employment often receive low wages and few promotions compared to nondisabled peers. Second, there are legal considerations that protect the rights of handicapped learners to participate in education and work opportunities. The Education for all Handicapped Children Act of 1975, known as the civil rights bill for the handicapped, expresses a national commitment to provide a free and appropriate education for all handicapped persons between the ages of three and twenty-one. Other legislation that benefits special needs individuals includes the (a) Rehabilitation Act of 1973, (b) Job Training Partnership Act of 1982, (c) Vocational Education Act of 1963, (d) Vocational Amendments of 1968, (e) Educational Amendments of 1976, and (f) Carl D. Perkins Vocational Education Act of 1984. It is far more effective to educate special needs learners for competitive employment in public schools, community colleges, and postsecondary vocational schools than to train them through other programs. Vocational education can help these learners prepare to become workers who contribute to the economy, rather than deplete it.

There are still barriers that prevent special needs learners from fully participating in educational and work opportunities, including accessibility, performance, and attitudinal factors.

Special needs students should be mainstreamed into vocational programs based on the premise that all students should be educated in the "least restrictive" or "most responsive" environment in which that person's educational and related needs can be met. Mainstreaming efforts require proper support services and resources as necessary for each special needs learner to satisfactorily complete regular school programs.

A key factor in providing quality vocational education programs and services for special needs learners is competent teachers. Vocational teachers usually require additional education to help them develop the competencies required to work effectively with special needs learners.

A look into the future of vocational education and vocational special needs education reveals some bright spots and some significant challenges. There are many factors at work that help shape the future for vocational education, such as intense international competition for the production of world goods, rapid change in the workforce due to new technological developments, continuing high unemployment rates, an unstable economy, and a crisis in the level of confidence in the nation's public schools. In the future, efforts to improve and expand education and services for members of special populations should be made so they can participate in our nation's economy as wage earners rather than becoming part of the population that society must support.

SELF ASSESSMENT:

1. Why should handicapped and disadvantaged individuals be given the opportunity to develop their vocational potential?
2. What role does work play in the lives of people with special needs?
3. Why have special needs individuals often been excluded by society from education and employment?
4. What factors must be considered by vocational teachers when special needs students enter their programs?
5. Why has the rate of unemployment been so high among handicapped and disadvantaged persons? What can be done about this situation?
6. Explain why participation in vocational programs may be the first successful experience that special needs learners have ever had in school.
7. What effect will the mainstreaming movement have on vocational programs?
8. What effect can integrating special needs students into vocational programs have on our economy?
9. Why should extra funds, which exceed the cost of preparing other students, be spent on providing education for special needs students?
10. List legislation that has been passed relating to vocational education for special needs learners and discuss their implications.
11. List some of the trends and developments affecting vocational special needs education.
12. What factors will have an effect on the future of vocational education?

ASSOCIATED ACTIVITIES

1. Your administrator has asked you to talk to the other teachers in the vocational department of your school at a special meeting because you have been working with several handicapped and disadvantaged students in your program. You are to address the issue of integrating these students into vocational programs. In outline form, prepare the notes that you will use for your presentation.
2. List the barriers that special needs learners might face when they attempt to enroll in vocational programs. Next, examine your own program and list the specific barriers that would make it difficult for these students to enter and/or succeed. Prepare a plan to eliminate or modify these barriers so that learners with special needs can succeed in your program.
3. You have decided to submit a paper to your State Vocational Journal. The topic you have chosen is "Mainstreaming: A Reality for Vocational Programs." Prepare a two- to three-page paper containing all the important points of this topic for possible publication.
4. Special state funds have been set aside to provide support services and aids for handicapped and disadvantaged students in vocational programs. Because you are working with special needs students, your supervisor has asked you to identify what you need in order to help them succeed in your program. First, list the resources that can be purchased with special set-aside funds. Next, identify the special items that would help the special needs learners in your program. Give a reason for including each item on your list.
5. Schedule an appointment with your school administrator to look into the possibility of obtaining some of the special set-aside funds for special needs learners. If a formal proposal is required, ask the special education teacher and the administrator to help you prepare it for funding consideration.
6. Identify articles and publications on the topic of the future of vocational education and review them. Form discussion groups with other students and develop a scenario for the future of vocational education.

CASE STUDY

Timothy is an emotionally disturbed learner and attends special education classes. Timothy is very hyperactive and finds it difficult to concentrate on tasks or to remain in his seat for long periods of time. He has often wandered around the room during laboratory activities.

Timothy has average intelligence but his grades in school have always been below average. Because of this his self-concept is poor. He has also been having problems developing friendships with his peers in the class.

In the beginning the vocational teacher was not very optimistic about Timothy's chances of success in the program. A conference was recently held between Timothy, the vocational teacher, and the special education teacher. The class rules and regulations were firmly emphasized and the consequences were also discussed. Later the special education teacher worked cooperatively with the vocational teacher to establish a system of simple behavior modification techniques that could be reinforced in both class environments.

A student-teacher contract system was developed for Timothy's program of study in vocational education. The contracts were set up so that the work is self-paced. Since Timothy contributed to the planning of the contract, he feels more confident about succeeding.

The contract system has proven to be an effective motivating technique. His behavior has been steadily improving. His test grades have all been good since the special education teacher has been reviewing the material from the vocational program.

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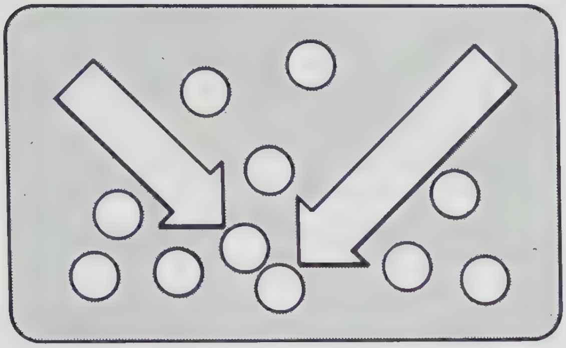


2

Special needs learners are often labeled by vocational teachers as belonging to one or more of the following groups: (a) mentally handicapped learners, (b) learners with emotional problems, (c) visually handicapped learners, (d) hearing-impaired learners, (e) learning-disabled learners, (f) speech-impaired learners, (g) health-impaired learners, (h) physically handicapped learners, (i) multi-handicapped learners, and (j) disadvantaged learners. Special needs learners are classified as belonging to these groups because they have general characteristics attributed to these groups, but each student differs from other students in the same category in abilities, motivation, goals, and other qualities. In order for vocational teachers to work effectively with special needs learners, they should become familiar with the general characteristics of learners in each group.

Special needs learners are usually defined as being handicapped, disadvantaged, or having special needs. Handicapped individuals may be mentally retarded, hard of hearing, deaf, speech- or language-impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, health-impaired or have specific learning disabilities requiring special attention and services to enable them to succeed in a regular vocational program. Disadvantaged learners are individuals (other than handicapped) who are economically or academically disadvantaged and who require special services and assistance to enable them to succeed in vocational programs. Disadvantaged learners may be members of economically disadvantaged families, immigrants, be limited in English proficiency, and be school dropouts or potential school dropouts. Special needs learners are persons who need special assistance or services in order to enter a vocational program and complete the requirements. This population includes both handicapped and disadvantaged individuals as well as other groups such as minority groups/members, persons with limited-English-speaking ability, persons in correctional institutes, migrant workers, and persons who are gifted and talented.

This module presents an overview of the nature and needs of handicapped and disadvantaged students and is intended to help vocational teachers to better understand the learning problems of these students so that appropriate modifications can be made and necessary support services provided to enable these students to enter and succeed in regular vocational programs.

OUTLINE

- Special Needs Learners—General Definitions
- Mentally Handicapped Learners
  - Levels of Mental Retardation
  - Mental Age
  - Working with Mentally Handicapped Learners in Vocational Programs
- Learners with Emotional or Behavioral Problems
  - Dealing with Disruptive Behavior
  - Sources of Help for Learners with Emotional or Behavioral Problems
  - Working with Learners with Emotional or Behavioral Problems in Vocational Programs
- Visually Handicapped Learners
  - Blind Individuals
  - Partially Sighted Individuals

  - Specialized Equipment, Materials and Aids
  - Mobility
  - Working with Visually Handicapped Learners in Vocational Programs
- Hearing-impaired Learners
  - Deaf Individuals
  - Hard-of-hearing Individuals
  - Methods of Communicating with Hearing-impaired Learners
  - Cooperative Planning with Interpreters
  - Specialized Equipment and Materials
  - Working with Hearing-impaired Learners in Vocational Programs
- Learning-disabled Learners
  - Behavioral or Emotional Problems
  - Perceptual Problems
  - Motor Activity Problems
  - Language Development Problems
  - Learning Modes
  - Working with Learning-disabled Learners in Vocational Programs
- Speech-impaired Learners
  - Working with Speech-impaired Learners in Vocational Programs
- Health-impaired Learners
  - Working with Health-impaired Learners in Vocational Programs
- Orthopedically or Physically Handicapped Learners
  - Accessibility
    - Access to the School
    - Accessibility in the Vocational Classroom/Laboratory
  - Working with Physically Handicapped Learners in Vocational Programs
- Multi-handicapped Learners
- Gifted and Talented Learners
  - Abilities of Gifted and Talented Learners
  - Characteristics of Gifted and Talented Learners
  - Working with Gifted and Talented Learners in Vocational Education
- Disadvantaged Learners
  - Disadvantaged Target Groups
    - Academically Disadvantaged
    - Economically Disadvantaged
    - Limited-English-proficiency
    - Criminal Offender
    - Single Parent
    - Displaced Homemaker
  - Working with Disadvantaged Learners in Vocational Programs
- Summary
- Self Assessment
- Associated Activities
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Differentiate between (a) handicapped learners, (b) disadvantaged learners, and (c) special needs learners.
2. Identify the specific categories of handicapped learners.
3. List the general characteristics associated with each category of handicapped learners.
4. Identify the specific categories of disadvantaged learners.
5. List the general characteristics associated with each category of disadvantaged learners.

CONCEPTS

Academically disadvantaged - Individual who scores below the 25th percentile on a standardized achievement or aptitude test, whose secondary school grades are below 2.0 on a 4.0 scale (where the grade "A" equals 4.0) or fails to attain minimal academic competencies. (P.L. 98-524)

Blind - Individual who has a visual disability so severe that he or she must depend to a great extent on the sense of hearing and touch rather then on the sense of sight.

Criminal offender - Individual who is charged with or convicted of any criminal offense, including a youth offender or a juvenile offender. These individuals will be associated with a correctional institution, identified as any of following: (1) prison; (2) jail; (3) reformatory; (4) work farm; (5) detention center; or (6) halfway house, community-based rehabilitation center or any other similar institution designed for the confinement or rehabilitation of criminal offenders. (P.L. 98-524)

Deaf - A hearing impairment so severe that the individual is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects (the individual's) education performance. (P.L. 94-142, 121 a.5)

Disadvantaged - Individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational educational programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school. (P.L. 98-524)

Displaced homemaker - Individual who is not necessarily a fully enrolled student but has been doing unpaid labor in the home, who is not gainfully employed, who has had, or would have difficulty in securing employment, and who has been dependent on the income of another member of the family but is no longer supported by that income.

Economically depressed area - An economically integrated area within any state in which a chronically low level of enonomic activity or a deteriorating economic base has caused such adverse effects as (1) a rate of unemployment which has exceeded by 50% or more the average rate of unemployment in the state, or in the nation, for each of the three years preceding the year for which such designation is made; or (2) a large concentration of low-income families, the designation of which is approved by the secretary as consistent with the purpose of the act, with these criteria and with such other criteria as the secretary may prescribe. (P.L. 98-524)

Economically disadvantaged - Individual who comes from a family who the state board identifies as low income on the basis of unform methods, such as (a) annual income at or below the official poverty line; (b) eligibility for free or reduced priced school lunch; (c) eligibility for AFDC or other public assistance programs; (d) receipt of a Pell grant or comparable state program of need-based financial assistance; and (e) eligibility for participation in programs assisted under Title II or JTPA. (P.L. 98-524)

Handicapped - Individuals who are mentally retarded, hard-of-hearing, deaf, speech- or language-impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities, who by reason thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance. (P.L. 98-524)

Hard-of-hearing - A hearing impairment, whether permanent or fluctuating, that adversely affects (an individual's) educational performance but which is not included under the definition of "deaf" in this section. (P.L. 94-142, 121 a.5)

Health-impaired - Limited strength, vitality or alertness, caused by chronic or acute health problems such as heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which advesely affects (an individual's) educational performance. (P.L. 94-142, 121 a.5)

Hearing-impaired - Individuals who have a sense of hearing inadequate for success in learning situations.

Homemaker - Individual who (a) is an adult, and (b) has worked as an adult primarily without remuneration to care for the home and family, and for that reason has diminished marketable skills. (P.L. 98-524)

Limited-English-proficiency - Individuals (1) who were not born of the United States or whose native language is a language other than English, (2) who come from environments where a language other than English is dominant, and (3) who are American Indian and Alaskan native students and who come from environments where a language other than English has had a significant impact on their level of English language proficiency, and who by reason thereof, have sufficient difficulty speaking, reading, writing or understanding the English language to deny such individuals the opportunity to learn successfully in classroom where the language of instruction is English or to participate fully in our society. (P.L. 98-524)

Mentally retarded - Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects (an individual's) educational performance. (P.L. 94-142, 121 a.5)

Multi-handicapped - Concomitant impairments (such as mentally retarded-blind, mentally retarded-orthopedically impaired, etc.), the combination of which causes such severe educational problems that the individual cannot be accommodated in a special education program designed for only one of the impairments. The term does not include deaf-blind (individuals). (P.L. 94-142, 121 a.5)

Orthopedically impaired - A severe orthopedic impairment which adversely affects (an individual's) educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns which causes contractures). (P.L. 94-142, 121, a.5)

Partially sighted - Individuals who exhibit a variety of visual problems. They differ from blind individuals in that they have limited ability to see print.

Seriously emotionally disturbed - A condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: (1) an inability to learn which cannot be explained by intellectual, sensory, or health factors; (2) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (3) inappropriate types of behavior or feelings under normal circumstances; (4) a general pervasive mood of unhappiness or depression; and (5) a tendency to develop physical symptoms or fears associated with personal or school problems. The term includes (individuals) who are schizophrenic or autistic. The term does not include (individuals) who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed. (P.L. 94-142, 121 a.5)

Single parent - An individual who (1) is unmarried or legally separated from a spouse, and (2) has a minor child or children for which the parent has either custody or joint custody. (P.L. 98-524)

Specific learning disability - A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dyslexia, and developmental aphasia. The term does not include (individuals) who have learning problems that are primarily the result of visual, hearing, or motor handicaps; or of mental retardation; or of environmental, cultural, or economic disadvantage. (P.L. 94-142, 121 a.5)

Speech-impaired - A communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects (an individual's) educational performance. (P.L. 94-142, 121, a.5)

Visually handicapped - A visual impairment that, even with correction, adversely affects (an individual's) educational performance. The term includes both partially sighted and blind (individuals). (P.L. 94-142, 121, a.5)

MODULE 2

WHO ARE SPECIAL NEEDS LEARNERS?

In order for vocational teachers to work more effectively with special needs students, they must become familiar with the general characteristics associated with each group. Ten special needs groups are described in this module: (1) mentally handicapped learners, (2) learners with emotional problems, (3) visually handicapped learners, (4) hearing-impaired learners, (5) learning-disabled learners, (6) speech-impaired learners, (7) health-impaired learners, (8) physically handicapped learners, (9) multi-handicapped learners, and (10) disadvantaged learners. Although general characteristics are given in this module for each category, individual differences will be seen in each learner.

Not all learning problems of special needs learners are identified prior to the high school level. Learning problems can go undetected or start at the secondary level. The vocational teacher may be the first person to identify learning problems. Any student who displays characteristics associated with special needs categories should be referred for appropriate assessment.

Each special needs learner is unique and has a learning capacity rate and style that differs from other students in the same category. Therefore, each student will progress at a rate based on individual abilities and interests, regardless of the characteristics that are associated with the category to which he or she has been assigned.

SPECIAL NEEDS LEARNERS— GENERAL DEFINITIONS

Handicapped individuals are individuals who are mentally retarded, hard of hearing, deaf, speech or language impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities, who by person thereof require special education and related services, and who, because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance (P.L. 98-524).

Disadvantaged learners are individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school (P.L. 98-524).

Special needs learners are those persons who need special assistance or services in order to enter a regular vocational education program and successfully complete the requirements.

This population includes both handicapped and disadvantaged individuals as well as other groups such as minority or racial group members, persons with limited English-speaking ability, persons in correctional institutes, migrant workers, and persons who are gifted and talented (National Center for Research in Vocational Education, 1979).

These individuals will have difficulty succeeding in vocational education programs without assistance in the form of support services, different teaching techniques and/or specific modifications in vocational programs and facilities.

Meet Jason, a Mentally Handicapped Learner. . .

Jason, who is 21 years old, currently attends the Wood County Postsecondary Technical Center part-time for training in a specific area. He also works part-time (17½ hours a week) at the local university as an assistant to the maintenance man in charge of the married tenants housing complex. He has been employed at this job for four years. His duties include cleaning, maintenance, and making repairs on the premises. Jason drives himself to and from work in his own car.

Jason was in a special education class for mildly mentally handicapped learners during his junior high school and high school years. While in high school he was enrolled in the transportation cluster in vocational education.

Jason is currently served by Vocational Rehabilitation Services. He stated he met his Rehabilitation Services counselor while in high school. Recently this counselor helped him by arranging for a vocational evaluation. Jason has been attending the Wood County Postsecondary Technical Center for three weeks and is working with the handicapped specialist and learning small engine repair. He has also expressed an interest in the welding and auto body areas.

Jason's four years at his present job show his perseverance on the job. He appears to be a highly motivated worker, working odd jobs in his spare time and accepting increased responsibilities at his present job. His desire for additional skills training and his work ethic suggest good work potential and conscientiousness. With continued assistance from his Rehabilitation Services counselor and the educational system, he will receive the vocational training he needs to succeed in his area of interest.

MENTALLY HANDICAPPED LEARNERS

Mentally retarded means significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects (an individual's) educational performance (Public Law 94-142, 121 a.5).

Figure 2.1 shows an overview of general characteristics often associated with mentally retarded learners. If you have a student in your program who frequently exhibits a number of these characteristics and is not receiving special education services, refer the individual for appropriate assessment and diagnosis.

Mentally handicapped learners have below-average general intellectual functioning abilities, resulting in below-average scores on achievement and individual standardized intelligence tests. However, performance on intelligence tests, or I.Q. scores, cannot alone accurately predict the social and vocational potential of a person. The I.Q. score merely predicts the potential academic ability level of the individual. Many people with low I.Q. scores can be successful at developing a vocational skill and finding employment. Other factors such as performance skills, verbal ability, problem-solving skills, perceptual ability and mechanical aptitude also affect the intelligence level (Brolin, 1977, p. 7). Mentally handicapped individuals frequently have below-average functioning levels in these areas.

Mentally handicapped individuals also have deficits in adaptive behavior. That is, in addition to performing below average on achievement tests, intelligence tests, and academic areas, they also have problems meeting or coping with the standards that are expected of others in the same peer and cultural group. Examples of these standards include appropriate personal-social behavior, adequate daily living skills, minimal basic academics, independent problem-solving abilities, and appropriate manipulative skills.

Learners who are classified as mentally handicapped are usually placed in a special education class and/or resource room where they are assisted in developing academic, social, prevocational, and/or self-care skills. The development of these areas is important if they are to be successfully mainstreamed into vocational programs.

Learners who are classified as mentally handicapped have a learning capacity that is less than average. At the maximum, they can be expected to reach a sixth-grade level in reading and math. These learners often have difficulty analyzing situations or tasks. Their skills in logical reasoning are limited or have not been fully developed. In some cases this may be due to the limited number of appropriate experiences to which they have been exposed.

A short attention span is often exhibited by these learners. However, when appropriate instructional materials and teaching techniques are used, many of them are able to concentrate on tasks for longer periods of time. A low frustration tolerance is frequently associated with this population. These learners become easily frustrated when assignments or tasks are not appropriate for their ability level or when too much new material is presented at one time.

Many mentally handicapped learners have problems expressing themselves verbally to others and/or in understanding what is being said to them. Their vocabulary is not as advanced as their peer group. Retention and recall of material is another problem associated with these learners. New concepts must be reinforced systematically so they can remember important points.

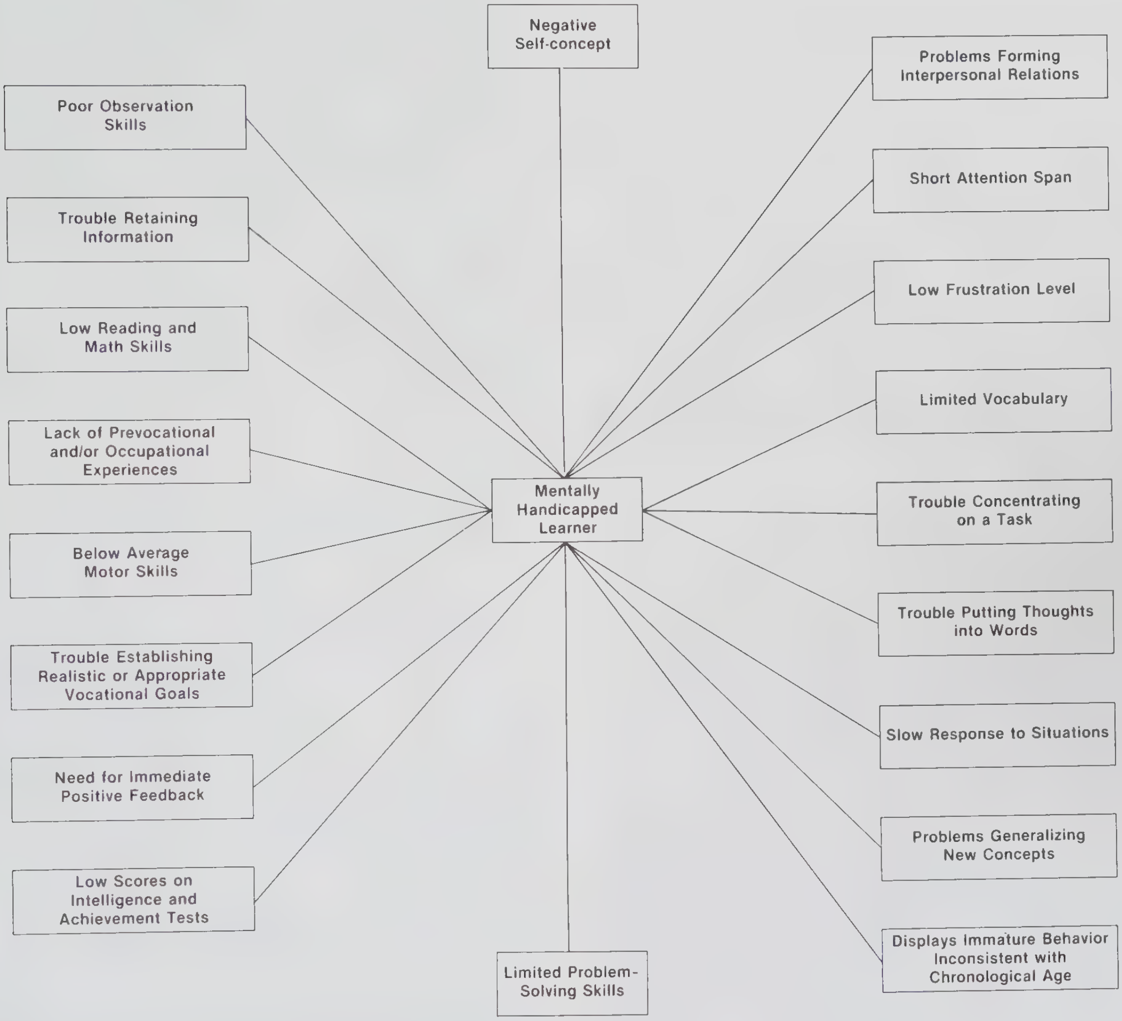
In the past many individuals who were classified as mentally handicapped came from low socioeconomic or minority group backgrounds. Factors such as poor health conditions, poor dietary habits, inadequate medical care, lack of exposure to common everyday experiences, cultural differences, and language barriers contribute to low scores on standardized intelligence tests. Because of these factors, caution must be observed when testing these individuals so that they are not unfairly labeled as mentally handicapped.

Many individuals who are classified as mentally handicapped can be trained for competitive employment, functioning in the same jobs as other workers, and are able to lead independent lives. In the past, the lack of vocational competence of this group could be

Figure 2.1

OVERVIEW OF GENERAL CHARACTERISTICS OF MENTALLY HANDICAPPED LEARNERS

Some of the general characteristics that mentally handicapped learners *may* exhibit are shown in this figure. Remember that not every mentally handicapped learner will display all of these characteristics.


Negative Self-concept
Problems Forming Interpersonal Relations
Poor Observation Skills
Short Attention Span
Trouble Retaining Information
Low Frustration Level
Low Reading and Math Skills
Limited Vocabulary
Lack of Prevocational and/or Occupational Experiences
Mentally Handicapped Learner
Trouble Concentrating on a Task
Below Average Motor Skills
Trouble Putting Thoughts into Words
Trouble Establishing Realistic or Appropriate Vocational Goals
Slow Response to Situations
Need for Immediate Positive Feedback
Problems Generalizing New Concepts
Low Scores on Intelligence and Achievement Tests
Limited Problem-Solving Skills
Displays Immature Behavior Inconsistent with Chronological Age

attributed, in part, to lack of experience and inadequate training of teachers. Therefore, opportunities for these students to enter vocational programs have been few. Vocational teachers can provide realistic vocational education opportunities for this population. With appropriate instructional materials and techniques, many of these individuals are given an opportunity to develop realistic skills that will help them to become economically independent upon leaving school. Support personnel and resources can also assist in this task.

Levels of Mental Retardation

The American Association on Mental Deficiency (AAMD) identifies four levels of mental retardation based on severity. The four levels are listed with the range of I.Q. scores of the two most widely used individual standardized intelligence tests.

Levels	Stanford-Binet Intelligence Test —I.Q. Scores	Wechsler Intelligence Test —I.Q. Scores
Mild (EMR)	68.52	69–55
Moderate (TMR)	51–36	54–40
Severe	35–20	39–25
Profound	19 and below	24 and below

(Haring, 1978, p. 104)

Mildly Mentally Handicapped. Mildly mentally handicapped learners are sometimes referred to as *ed-*

ucable mentally retarded (EMR) students. They usually receive some career education and/or prevocational experiences in the lower grades or in junior high school to prepare them with skills that will help them become independent. Practical academics are emphasized in their instructional program so that they can be mainstreamed into regular programs and classrooms.

Many mildly mentally handicapped learners can be successfully mainstreamed at the secondary level. Vocational teachers will work with this population in existing programs. Learners usually receive assistance from special education personnel in the form of related academics, remedial help, and work-study opportunities.

These individuals usually function at a maximum of sixth grade level in reading and math. Their self-help skills are generally well developed. They are able to communicate with others and act independently in most situations. They can usually be prepared for semi-skilled or unskilled jobs through appropriate vocational education.

Moderately Mentally Handicapped. Moderately mentally handicapped learners are sometimes referred to as *trainable mentally retarded* (TMR) students. These individuals generally are able to recognize survival words and functional vocabulary but do not have extensive formal reading skills. Major objectives of their instructional program include developing self-help skills and basic social skills.

Many of these individuals can develop skills that will enable them to perform assembly work or production work in sheltered workshop facilities. Some moderately mentally handicapped individuals can be trained for unskilled jobs in the competitive employment sector and can perform tasks with few or no errors with minimal supervision. Productivity rates generally increase the longer the individual performs the same task.

These learners were formerly placed in separate facilities. Today, many of them attend classes in public schools. They generally remain in segregated, self-contained classes for the majority of the school day. Specialized programs are developed to emphasize socialization and self-care skills.

By acting as consultants to special education personnel, vocational teachers can help these students develop skills so that they can be at least partially self-sufficient.

Severely and Profoundly Mentally Handicapped. In the past vocational opportunities have been practically nonexistent for individuals in this category. Severely and profoundly mentally handicapped learners are usually found in segregated facilities or institutional settings. As a result of recent legislation for the handicapped, programs are being developed for these individuals so that they may function in the least restrictive environment.

Severely mentally handicapped learners do not develop academic skills. The emphasis in their instructional program is on developing basic self-care, socialization, communication, and leisure skills. They are usually at least semi-dependent on others.

Profoundly retarded individuals are often totally dependent on others and require almost total supervision. They generally are not able to protect or care for themselves and are not able to function in regular classroom situations.

Vocational personnel do not work with severely and profoundly retarded individuals in regular programs. However, they may be called upon as consultants if specific training activities are established.

Mental Age

The mental age (MA) of mentally handicapped students differs markedly from their chronological age (CA). Physically, these students may not appear different from others in their age group. However, their mental development is much slower.

The mental age of individuals is determined by comparing their I.Q. score with their chronological age. The lower the I.Q. level is, the lower the mental age level will be. The mental age is indicative of the student's ability to learn. The lower the mental age is, the slower the rate at which the student will learn is. The following formula can be used to determine the MA of a learner:

$$MA = \frac{I.Q. \times CA}{100}$$

Mental age is equal to the I.Q. score multiplied by the chronological age divided by 100. If the learner is 16 years or older, the CA in the formula is always 15.

For example, a mentally handicapped student who is 16 years old with an I.Q. of 60 has a mental age of 9.

$$MA = \frac{(60) \times (15)}{100}$$

$$MA = 9$$

This learner will learn at approximately the rate of a 9-year-old child rather than at the rate demonstrated by other average 16-year-old students. The vocational teacher needs to consider the mental age of students when developing and implementing realistic program objectives.

Working with Mentally Handicapped Learners in Vocational Programs

Some general suggestions for vocational teachers who work with mentally handicapped learners follow.

1. A step-by-step approach to instruction can help eliminate frustration in the students. Introduce new material in small amounts and check to make sure that the student understands each step before continuing to the next step.
2. Consider the reading level of the student before assigning a textbook, workbook, or handout.
3. Use the demonstration approach for maximum comprehension.
4. To minimize frustration and failure, allow the learners to take tests orally. In many cases, they will be able to correctly answer questions that are read aloud. If special education personnel are administering the test orally, they may tape-record the responses for later evaluation.
5. Develop a task analysis for each objective to allow learners to progress at their own learning pace. The task analysis can be broken down into smaller steps, depending on the rate at which students progress.
6. Establish instructional objectives that parallel the abilities of the students.
7. Provide for repetition and review for adequate comprehension of new material.
8. Allow extended time for students to complete assignments and tasks.
9. Provide positive reinforcement when students successfully complete a task. This will help them develop a feeling of accomplishment and thus motivate them to continue.
10. Individualized instruction and programmed learning methods are helpful when working with these students.
11. Allow sufficient time for overlearning. Overlearning is very important for these learners. Do not rush them into new material until they have had sufficient time to grasp what has already been presented. Check their comprehension by asking them to explain and/or demonstrate.

Meet Sarah, a Learner with Emotional and Behavioral Problems . . .

Sarah is a 17-year-old girl enrolled in a high school welding program. Her records reveal that she has average intelligence but her grades in school show that she is failing in most classes. She displays frequent mood changes during the day. One minute her behavior is aggressive, and the next minute she becomes withdrawn and will not respond to others around her. When assigned a task in the welding class or laboratory, she is sometimes uncooperative and defiant. Sarah is reluctant to participate in any group activities because she is generally not accepted by her peers. Her continual demand for attention in class is beginning to irritate Mr. Jones, the welding teacher. When he approached the guidance counselor to discuss the situation, he was told that Sarah has been experiencing some problems at home. Her father is an alcoholic and frequently is out of work. She spent several years in a foster home. Recently, her mother was involved in a serious car accident. Sarah is now responsible for managing the household and caring for seven brothers and sisters. Mr. Jones and the guidance counselor feel that Sarah can be helped through cooperation from the special education teacher and some behavior modification techniques.

LEARNERS WITH EMOTIONAL OR BEHAVIORAL PROBLEMS

A *seriously emotionally disturbed* condition adversely affects an individual's educational performance and is characterized, over a long period of time and to a marked degree, by one or more of the following:

1. an inability to learn, which cannot be explained by intellectual, sensory, or health factors;
2. an inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
3. inappropriate types of behaviors or feelings under normal circumstances;
4. a general pervasive mood of unhappiness or depression;
5. a tendency to develop physical symptoms or fears associated with personal or school problems.

The term includes (individuals) who are schizophrenic or autistic. A schizophrenic individual has a severe mental disorder characterized by losing touch with reality. An autistic individual has a severe communication disorder and is withdrawn and uninterested in others. The term does not include (individuals) who are socially maladjusted, unless it is determined that they are seriously emotionally disturbed (Public Law 94-142, 121, a.5).

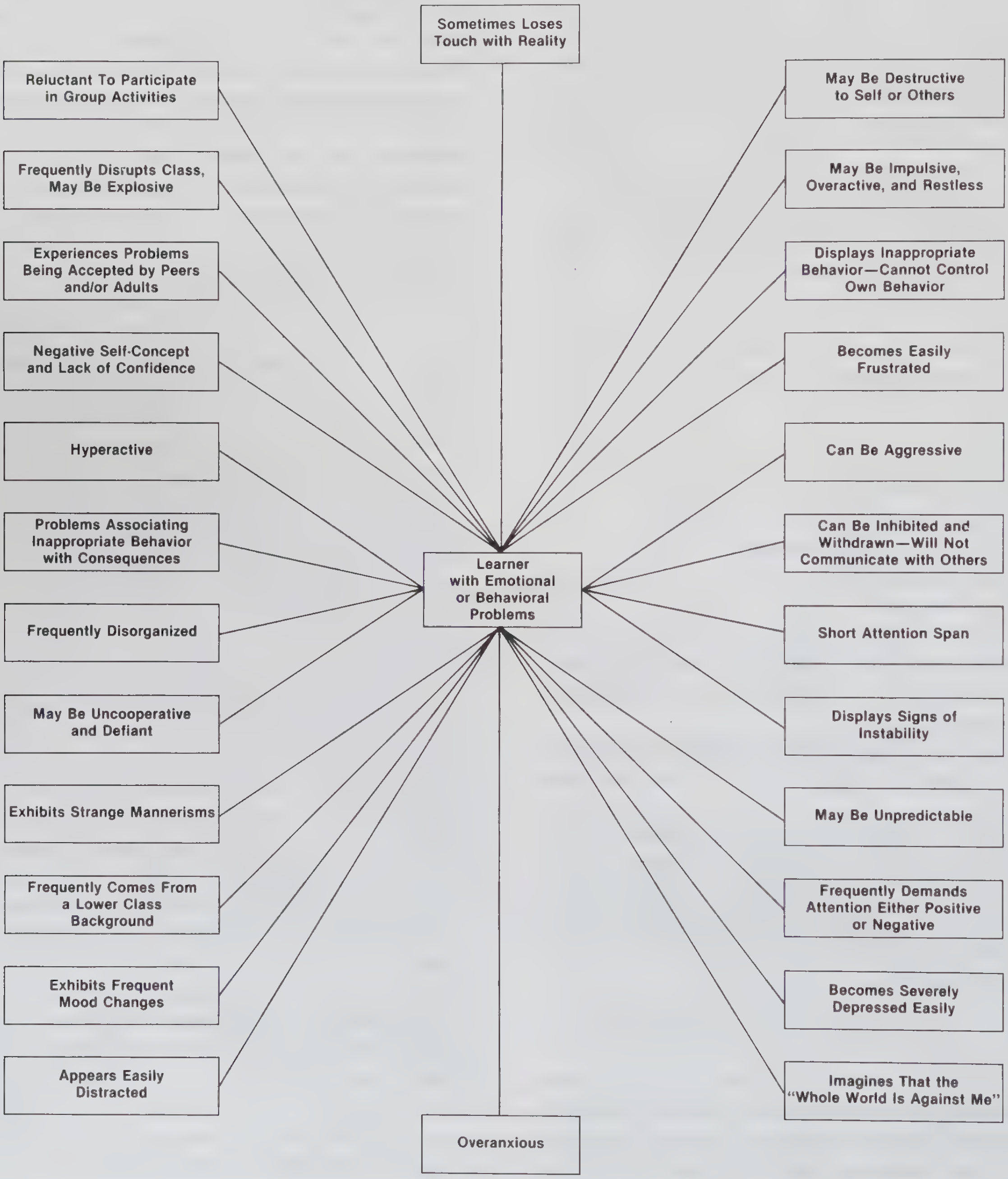
Figure 2.2 shows an overview of general characteristics often associated with learners who have emotional or behavioral problems. Emotional or behavioral problems often affect the student's ability to learn. This handicap can have a number of causes, including:

1. effects of minimal brain injury;
2. psychological stress;
3. problems in the central nervous system;
4. vitamin deficiencies;
5. allergies;

Figure 2.2

OVERVIEW OF GENERAL CHARACTERISTICS OF LEARNERS WITH EMOTIONAL OR BEHAVIORAL PROBLEMS

Some of the general characteristics that learners with emotional or behavioral problems *may* exhibit are shown in this figure. Remember that not every emotionally disturbed or behavior-disordered learner will display all of these characteristics.


Sometimes Loses Touch with Reality
Reluctant To Participate in Group Activities
Frequently Disrupts Class, May Be Explosive
Experiences Problems Being Accepted by Peers and/or Adults
Negative Self-Concept and Lack of Confidence
Hyperactive
Problems Associating Inappropriate Behavior with Consequences
Frequently Disorganized
May Be Uncooperative and Defiant
Exhibits Strange Mannerisms
Frequently Comes From a Lower Class Background
Exhibits Frequent Mood Changes
Appears Easily Distracted
May Be Destructive to Self or Others
May Be Impulsive, Overactive, and Restless
Displays Inappropriate Behavior—Cannot Control Own Behavior
Becomes Easily Frustrated
Can Be Aggressive
Can Be Inhibited and Withdrawn—Will Not Communicate with Others
Short Attention Span
Displays Signs of Instability
May Be Unpredictable
Frequently Demands Attention Either Positive or Negative
Becomes Severely Depressed Easily
Imagines That the "Whole World Is Against Me"
Learner with Emotional or Behavioral Problems
Overanxious

6. reaction to preservatives, chemicals, and dyes in processed foods;
7. a chemical imbalance within the body;
8. low blood sugar (hypoglycemia);
9. a home environment that is too permissive and not conducive to developing self-control.

Many students in the public schools today have minor behavioral problems. Individuals classified in this category usually have long-standing problems. Their behavior is frequently inappropriate for the time and place in which it occurs. Another important distinction is that the rate of inappropriate behavior differs significantly from average learners. Students with emotional or behavioral problems display disruptive or withdrawn behavior more frequently than their peers.

Although the behaviors exhibited by these learners vary from student to student, they generally lack the ability to control their own behavior. When they react to anxiety situations, their behavior is frequently inappropriate and not accepted by either peers or adults. Behaviors and actions often associated with this category include:

1. strange mannerisms;
2. frequent mood changes;
3. severe depression;
4. demands for constant attention;
5. uncooperative attitudes;
6. overreacting to constructive criticism (hostile or defensive);
7. high anxiety levels;
8. constantly boasting or bragging (overly competitive);
9. blames others for problems (denies responsibility, indicates helplessness to change, refuses to consider changing habits);
10. sharp decline in performance, attitude, or grades;
11. inability to interact appropriately with peers and is often ridiculed (difficulty in maintaining friendships);
12. makes inappropriate and irrelevant comments and jokes in class to distract both the teacher and peers;
13. distractible and lacks concentration (frequent daydreaming, excessive concern with the behaviors of peers);
14. withdraws from others (interaction in class, small groups, one-on-one encounters);
15. lacks interest in school (refusal to work, neglected homework, use of drugs);
16. poor attendance (not connected with illness);
17. displays annoying tics (talks to self, taps feet);
18. poor impulse control (does not think before acting or speaking and is unaware of the consequences of these actions);
19. completes assignments hurriedly without concentrating on accuracy and quality.

These learners are easily frustrated. They often resist authority and ignore discipline attempts. Many display immature behavior and are sometimes destructive to others or to themselves. When new tasks are assigned, many of these individuals exhibit extreme anxiety and fears. Some of them may be on medication or special diets to control their excitable behavior. The vocational teacher must be aware of the effects of specific medication on the performance of the student in a laboratory or working environment.

Lack of self-confidence is a problem for most learners with emotional behavioral problems. They doubt their ability to succeed in academic, motor, and social activities. Success in developing vocational skills can be an important key toward helping these students cope with their fears and anxieties about failure. Doubts disappear as successful learning experiences are encountered. Therefore, vocational programs can make a positive contribution toward their mental health as well as their employment potential.

Dealing with Disruptive Behavior

When learners with emotional or behavioral problems become aggressive or hostile during classroom or laboratory activities, the following methods may be used to deal with outbursts of disruptive behavior.

1. Remove the student from the situation where the disruptive behavior occured. A one-on-one discussion in the hall, in one corner of the classroom, or in an office is recommended. This is sometimes called a *time-out zone*. It is important that there is no audience when trying to communicate with the student.
2. Calmly discuss the reason for the conference. Explain that the behavior was inappropriate for the classroom or laboratory and that it disrupted everyone in the class. Do not show anger or hostility, which may excite the student and make him or her difficult to manage. If you are calm, the student should begin to calm down also.
3. Let the student know that you are concerned about the situation and would like to help with any problem that exists. If the student feels that you care about him or her, it will make him or her feel more secure, which will foster communication rather than hostility.
4. Allow the student to explain what the problem is and a chance to release any frustrations and insecurities. In many cases, students with emotional or be-

havioral problems will be disruptive if they are presented with tasks that are too difficult for them or if too much is expected of them at one time. These learners have difficulty working under pressure. The problems causing the inappropriate behavior may be directly related to classroom activities or assignments or to an incident that occurred elsewhere, such as a crisis in the home environment.

5. Once the student has had an opportunity to discuss any problems, cooperatively plan some solutions. For instance, if the student is threatened by a task that was assigned, break the task into small steps.

6. Allow the student to remain in the time-out zone for a short while in order to calm down and regain composure before returning to the classroom or laboratory.

7. Stress that you are always willing to discuss problems with the student. This will help to minimize feelings of inadequacy as well as to develop a sense of rapport.

Sources of Help for Learners with Emotional or Behavioral Problems

Occasionally, outside help from the community will be necessary to assist learners with emotional or behavioral problems. Special education personnel can help identify these sources and work with them to make arrangements for services. These sources may include community mental health centers, counseling centers associated with local colleges or universities, psychiatric units located in local hospitals or clinics, and crisis centers. Additional sources may be available in the local community. Advocacy groups and members of professional organizations can also suggest techniques to use with these students.

Working with Learners with Emotional or Behavioral Problems in Vocational Programs

Some general suggestions for vocational teachers who work with learners with emotional or behavioral problems follow.

1. The key to working with students in this category is to be consistent in your standards and expectations regarding their participation in the vocational program. When they first enter the program, firmly establish any rules, regulations, or program standards, and also the consequences if they are not met. Be firm and consistent by following through with established consequences as they become necessary.

2. Contact the special education teacher in your school or district. Cooperatively plan some behavior modification techniques that can be implemented while students participate in vocational program activities. These techniques can also be reinforced by special education personnel during the time when students are outside class.

3. Offer positive reinforcement for desirable behavior. Praise helps students feel confident and successful.

4. Provide a structured program with tasks and activities that do not require a great deal of decision-making. Routine gives them a feeling of security, which reduces impulsive behavior.

5. Provide examples and tasks that are as concrete and meaningful as possible. Abstract concepts can frustrate the students. Demonstrate the procedures of assigned tasks so that students know exactly what to do.

6. A student-teacher contract specifies the tasks that the student will complete or the behavior that the student will change within an established time limit. Rewards and consequences are agreed upon between the teacher and the student.

7. *Overloading* (overstimulation) can cause a loss of concentration and excitability in the student. Therefore, instruction should contain only a few new steps so that students do not feel overwhelmed with new material. Always build on previously mastered tasks. Maintain a success-oriented environment as much as possible.

8. Hyperactive students should have opportunities to move around. This movement can be incorporated into the task or activity. The teacher can also ask the student to help organize the tool room, help supervise clean-up activities, or take a message to the main office.

9. Programmed learning methods and individualized instruction allow these learners to work successfully at their own pace without feeling threatened or pressured.

10. Reduce the length of assignments. These learners may lose interest in a lengthy activity and become inattentive. Shortened assignments expose them to a variety of tasks, which stimulate attentiveness.

11. Eliminate distractions by reducing excessive visual and auditory stimulation. Study carrels are very effective in doing this. If carrels are not available, seat the learner in the area of least distraction. Desks, tables, and work stations should be kept free from unnecessary materials to prevent distractions.

12. Praise the learner for remaining on-task and for completing assigned work. Ignore as much of the negative behavior as possible. Attention paid to inappropriate behavior may only reinforce it. Use progress charts and other visible means of recording behavior

improvements. Simply charting the improvement may serve as a reinforcer for some learners.

13. Make certain that directions are very clear. When giving directions to the class, stand near these learners to help them to be attentive. Simplify instructions by using simple terms and phrases. After giving instructions to the class, check the comprehension of instructions by having the emotionally handicapped learner paraphrase the instructions back to you. Visual cues can be written on notecards and taped to the learner's desk or lab table. Prerecorded directions can also encourage learners to pay attention.

14. When working with hyperactive students, limiting the amount of physical space will aid in improving concentration on the specific task. Opportunities for movement in open areas can be used as a reward for completing the assigned task.

15. Remember that different people have different standards for what constitutes inappropriate behavior. For example, some teachers are less tolerant of verbal activity in the classroom than others. The same student in the same setting might be judged "normal" by one teacher and "behavior disordered" by another. You must take into consideration (a) your expectations for learners in your program, (b) your classroom rules and regulations, (c) the amount of inappropriate behavior you are willing to allow, and (d) your reaction to inappropriate behavior.

Meet Scott, a Visually Handicapped Learner . . .

Scott is 24 years old and is enrolled in a postsecondary auto mechanics program. When he was in high school, he received help from itinerant teachers in mobility training. Scott was enrolled in the transportation cluster program during his last two years of high school. His instructor reports that he did very well in the program.

After graduation, he worked for several years at a service station as a general attendant. Not satisfied with this job as a final career choice, Scott contacted the State Office of Vocational Rehabilitation. Scott completed a number of vocational assessment activities to further explore his aptitudes and interests. As a result of several counseling sessions, it was recommended that Scott enroll in the auto mechanics program. Vocational Rehabilitation has supplied Scott with a number of specially designed tools that are helpful to him. Upon completion of the program, Scott will also receive job placement from his rehabilitation counselor, who is working cooperatively with the auto mechanics instructor.

VISUALLY HANDICAPPED LEARNERS

The phrase *20/20 vision* describes normal vision. A person with 20/20 vision can see from a distance of 20′ what a normal eye should be able to see at a distance of 20′. A person with 20/200 vision can see from a distance of 20′ what a normal eye should see at a distance of 200′. The object, therefore, must be brought much closer for this person to see it clearly.

Visually handicapped means impairment that, even with correction, adversely affects (an individual's) educational performance. The term includes both partially sighted and blind (individuals) (Public Law 94-142, 121, a.5). Visually handicapped individuals have a best corrected visual acuity of 20/70 or less in the better eye. Legally blind individuals have a corrected vision in the better eye of 20/200 or less or a field of vision that is restricted to 5° or less at 20′.

Visually handicapped learners may have problems achieving success in school. They may not be able to attain a level of academic achievement commensurate with their mental ability because of the visual defect. They require learning experiences and materials adapted to meet their needs. Many visually handicapped learners also have difficulties in motor coordination, mobility, speech and language development, and interpersonal relationships. Individuals classified as visually handicapped are divided into two groups, blind and partially sighted, according to their ability to see printed material and other objects around them.

Figure 2.3 shows an overview of general characteristics often associated with visually handicapped learners. A student who frequently exhibits a number of these characteristics and is not receiving special education services should be referred for appropriate assessment and diagnosis.

Blind Individuals

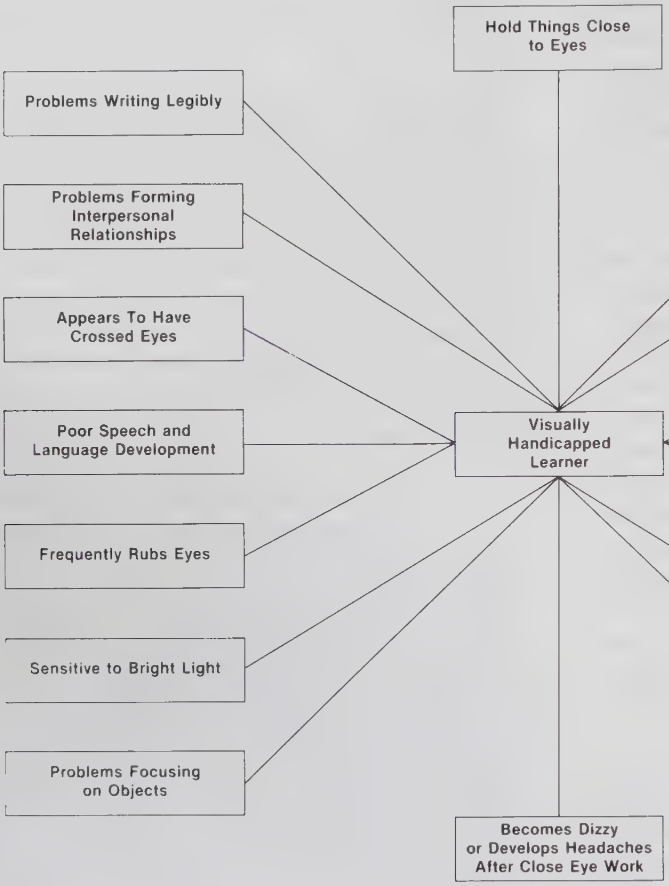
Individuals classified as blind have a visual disability so severe that they must depend to a great extent on hearing and touch rather than on sight. State laws have definitions of legal blindness, which provide guidelines differentiating individuals classified as blind and those classified as partially sighted.

Blind individuals become aware of their environment through smell, touch, and hearing. The age at which individuals become blind greatly affects their specific educational needs. Those who have been blind since birth have difficulty understanding concepts such as depth, space, and relationships of one object to another. A person who becomes blind later in life will have problems adapting to blindness but can rely on

Figure 2.3

OVERVIEW OF GENERAL CHARACTERISTICS OF VISUALLY HANDICAPPED LEARNERS

Some of the general characteristics that visually handicapped learners *may* exhibit are shown in this figure. Remember that not every visually handicapped learner will display all of these characteristics.


Hold Things Close to Eyes
Problems Writing Legibly
May Blink Frequently
Problems Forming Interpersonal Relationships
Squints Eyes When Looking at Something
Appears To Have Crossed Eyes
Problems Completing Close Eye Work
Poor Speech and Language Development
Visually Handicapped Learner
Appears Awkward or Clumsy When Moving
Frequently Rubs Eyes
Poor Motor Coordination
Sensitive to Bright Light
Low Reading Level
Problems Focusing on Objects
Has a Negative Self-concept
Becomes Dizzy or Develops Headaches After Close Eye Work

experiences from the past. This memory of visual experience is helpful in adjusting to educational experiences.

Developing reading skills is difficult for blind students. Some blind individuals know how to read braille. Braille is a system of reading that involves touching rather than seeing. Characters are made of combinations of six raised dots. By running their fingers over the characters, blind individuals learn to read the characters just as sighted people learn to recognize and read letters and words. However, reading braille is more time-consuming than reading regular print. Visually handicapped individuals who use this method read at a slower rate than sighted students who read regular print (about 70 words per minute as opposed to about 245 words). A print-scanning device called an Optacon allows blind individuals to read printed words. This reading machine translates printed letters into vibrations. By feeling these vibrations, blind people can put the letters together to form words and, as a result, can read without ever seeing the words.

Partially Sighted Individuals

State laws define guidelines for classifying individuals as partially sighted. Generally, such individuals have limited vision even with corrections such as heavy lenses or surgery. Modifications to vocational education materials, equipment, or facilities must be made in order for them to succeed. These learners, though they have some degree of sight, rely heavily on touch and materials that enable them to learn through the sense of touch.

Partially sighted students exhibit a variety of visual problems. They differ from blind individuals in that they have limited ability to see print. Some have problems seeing clearly; some cannot tell the difference between colors. Some are very sensitive to light, while others have a narrow field of vision that limits their ability to see. However, it is generally accepted that these students should apply whatever visual ability they have to assigned tasks.

Some of the common visual problems of this population are in the following areas:

1. *Field of vision* - A normal eye takes in a wide area, but an eye with limited field of vision sees only a very small part of the total picture.
2. *Color blindness* - The individual cannot distinguish certain colors.
3. *Visual acuity* - The individual may not see sharply or clearly or may have to get very close to objects.

Optical aids, such as enlarged print and magnifiers, can be extremely useful in working with these students. In addition, special lighting and prescription lenses may be required.

Specialized Equipment, Materials, and Aids

The following equipment, materials, and aids may be used with visually impaired students.

Equipment

1. The Optacon is a machine that allows visually handicapped individuals to "read" printed material. The scanner converts printed words into a tactile pattern that can be felt.
2. The Stereotoner converts printed words into auditory tones.
3. The Kurzweil reading machine uses a computer to read the words on a printed page and converts them into spoken synthesized words so that a blind individual can "read."
4. A braillewriter is similar to a typewriter. It has six keys and converts writing into braille.
5. Desks or tables with adjustable tops can help partially sighted students focus materials in the best light.
6. Overhead projectors produce a larger image on a screen than information written on a chalkboard.
7. Talking Book machines are specially adapted recordplayers. Talking Books are recordings of books and other printed materials made for use with this machine.
8. Talking calculators help these learners with calculations.

Materials

1. Books and other printed materials with large type are helpful. Many materials are available from the American Printing House for the Blind, 1839 Frankfort Avenue, Louisville, KY 40206. A catalog describing aids and appliances for visually handicapped individuals is published yearly. A section is devoted to vocational aids. The catalog can be obtained from the American Foundation for the Blind.
2. Recording for the Blind, a national, nonprofit voluntary organization supported by contributions, provides recorded educational books, free-on-loan, to anyone who cannot read normal printed material because of visual, physical, or perceptual handicaps. There is no comparable producer—and repository—of up-to-date recorded academic literature anywhere in the world. This organization records new books on request and retains Master Tapes of all titles recorded. Individual tape copies are made from those Masters, as requested. The Library and Recording Services are fundamental aids to elementary and high school, college and graduate students, as well as to those who require educational or specialized material in the pursuit of their occupations.
3. The National Library Services for the Blind and Physically Handicapped, located at the Library of Congress in Washington, D.C., provides selected periodicals in braille, disc, cassette, large-type, and open-reel tape editions. These materials are free of charge for handicapped individuals. A descriptive listing of selected periodicals is available upon request.

Specialized Aids

1. Magnifiers for partially sighted learners.
2. Peer or volunteer readers from the school and/or community.
3. A slate and stylus to punch out braille notes.
4. Special contact lenses or glasses for partially sighted learners.
5. Braille devices, tools, and instruments such as braille rulers, micrometers, feed indicators, and control dials all have raised marking to assist visually handicapped learners.
6. Guards and templates specially designed for laboratory equipment and machinery.
7. Attachments or auditory warning signals for machinery that produce an audible sound when a machine is on.
8. Partially sighted learners may require special lighting to allow them to use their vision to the maximum capacity.
9. Control dials and switches on machines and equipment that are easily accessible to these students.
10. Teachers can make their own raised dots to form braille labels and instructions by using dots of glue.
11. Diagrams using raised lines and three-dimensional models can help these students form a "mental blueprint" of what the instructor is explaining.

Mobility

Mobility refers to an individual's ability to move in an environment. Several methods of mobility are used by visually handicapped individuals. In general, the earlier a visually impaired person can receive such instruction, the better. The following methods are the most frequent methods of travel.

1. *The sighted guide technique* - The visually impaired individual grasps a sighted person's arm just above the elbow and walks one-half step behind and to one side of the sighted guide. The guide does not have to change his or her natural walking style. The individual will automatically feel changes and react accordingly.

2. *The long cane* - This technique usually is not begun until the early teens. Instruction is necessary and should be given by a qualified orientation and mobility specialist. The visually handicapped person "sweeps" the cane back and forth while walking, lightly touching the ground ahead with it. In this way, travel is possible in a straight direction, identifying such obstacles as curbs, buildings, paths, and walls. The cane is painted white for added safety; it alerts drivers to the traveler.

3. *Guide dogs* - Guide dogs usually are not recommended for students under the age of 16 because they usually lack the physical strength and maturity to handle dogs properly. About 10% of visually handicapped persons travel with the aid of guide dogs. These dogs are bred and trained by special agencies and both the person and dog must take part in an intensive training period lasting several weeks. A visually handicapped person should be in good health, have a keen sense of direction, and be able to give verbal instructions to the dog in order to effectively use this method. The guide dog is most often used in situations where the user frequently travels through unfamiliar and complicated areas.

4. *Independent travel* - The most commonly used method is independent travel largely because this technique is taught at an early age to the student. Many visually impaired people learn to use their senses of hearing and touch to detect obstacles in their path. Partially sighted individuals can learn to use their residual vision (remaining vision) for traveling around.

Working with Visually Handicapped Learners in Vocational Programs

Some general suggestions for vocational teachers who work with visually handicapped learners follow.

1. As soon as visually handicapped students are enrolled in your program, orient them to the classroom and laboratory environment so they can develop appropriate mobility, safety, and motor skills. It is crucial that they become familiar with the layout of the rooms as well as the specific tools, equipment, and materials that will be used. A guided tour of the rooms is excellent, allowing them to feel where everything is located as you describe the surroundings verbally. They can then form a "mental blueprint." Do not rearrange the rooms without informing them.

2. Do not become overprotective or try to restrict learners from moving around the classroom or laboratory. A wide variety of experiences is important for them to become familiar with their surroundings.

3. When addressing students, specifically call them by their names so they know to whom you are speaking.

4. Read words and figures aloud as you write them on the chalkboard. Students can then keep up with the contents of the instruction.

5. Allow learners to use cassette recorders during class discussions and lectures.

6. Use raised lines and/or non-skid tape around safety areas in the laboratory to prevent accidents.

7. When demonstrating a new task, procedure, piece of equipment, or tool allow students to actively use their sense of touch so they will be able to understand the process. For example, take their hand and follow through with the process as you explain it verbally. This method is far more effective than merely telling them to "insert this part into this opening." Allowing learners to touch and feel a procedure in its successive stages will help develop their visualization skills. Hands-on examination combined with a verbal description will enable these learners to form a "mental blueprint" of an object or process.

8. Peer tutors help these students succeed in laboratory assignments as opposed to completing the assignments for them.

9. Have printed material converted to enlarged print, thermoform print (raised letters), or braille.

10. Tape-record lectures and demonstrations. Students can then borrow the tapes to review material covered in class.

11. Student notetakers are helpful. Special pads are available that slip under a notebook page and record a carbon copy of notes taken. In this manner visually handicapped students can either use a magnifier to read notes or have them transcribed on a cassette or typed on a braille typewriter.

12. When making decisions about class seating arrangements, allow these students to sit where they can hear and where the glare of the lights or sunlight will not bother them.

13. Allow students to type assignments, reports, and tests. Many of them can type much faster than they can write or transcribe in braille.

14. Allow students to tape-record answers to tests

or lengthy written assignments.

15. Overhead projectors can help magnify a transparency (even to the size of a wall, depending on the distance from the projector).

16. The learner's desk or work table should be well lighted with evenly distributed, glare-free light.

17. Allow partially sighted students to use felt-tipped markers or black ball point pens for completing written work. Also, these writing instruments should be used to make large, bold lettering when you are grading written work so they can read your comments.

18. Try to keep the classroom and laboratory free of dangerous obstacles.

19. Always keep doors fully open or closed. Half-open doors are a hazard for visually handicapped individuals.

20. Desks with adjustable tops are helpful since constant bending over a regular desk can be uncomfortable. The movable desk top often reduces glare and shadows if adjusted properly. Another suggestion is to place an easel on top of the desk for reading written work.

21. Some partially sighted learners will use special low-vision aids in the classroom or laboratory. These may include contact lenses or special glasses, magnifiers, binoculars, or other devices. These low-vision aids should be used only when necessary and should be prescribed by a clinician with expertise in low-vision problems.

22. Allow partially sighted learners to use special writing paper with a dull finish and widely spaced green lines.

23. Some partially sighted learners can read more easily with a bookmark just above the line being read or through a slot in a piece of dark paper that exposes only one or two lines of print at a time.

24. Listening skills are very important. A visually handicapped learner sitting in a classroom does not develop effective listening skills automatically. These skills may have to be systematically developed and refined through practice.

25. Sound helps visually handicapped students identify and locate objects. Variations in sound can indicate successive stages of an operation. Make cassette tapes of the sounds in the laboratory environment so that learners can develop orientation skills.

26. The student should learn to use visualization to become familiar with and memorize sequential steps in using machinery or tools.

27. Testing procedures should be modified for these learners. Some suggestions include:
   a. extended time to take the test;
   b. reduction of the number of items on the test;
   c. administering the test orally;
   d. taping the test in advance;
   e. sending the test to a resource/itinerant teacher.

28. In the classroom or laboratory you can help the visually handicapped learners locate something by giving verbal directions. The terms "left" and "right" should be in relationship to the learner's body, not yours.

29. Make certain the students know you are aware of their presence in the room.

Meet Rick, a Hearing-impaired Learner. . .

Seventeen-year-old Rick is enrolled in a cosmetology program. Rick has been deaf since he was 5 years old. He attended the state school for deaf students until he was 15 years old. He developed lipreading and sign language skills in his communication classes at the state school.

This is the second year that Rick has been enrolled in the cosmetology program. Ms. Jones, his teacher, reports that Rick has been doing very well in the program. However, his reading level is low and he requires some assistance from the resource room teacher several times a week to assist him in reading required course material. In addition, Rick works with the district speech therapist and the itinerant teacher.

Ms. Jones and the other students in the class have learned to face Rick when they are speaking to him so that he can read their lips. Ms. Jones has also modified her classroom instruction to meet Rick's needs, with the help of the itinerant teacher for the hearing-impaired. When the time comes for Rick to review for and take the state board examinations, an interpreter will be provided for him.

HEARING-IMPAIRED LEARNERS

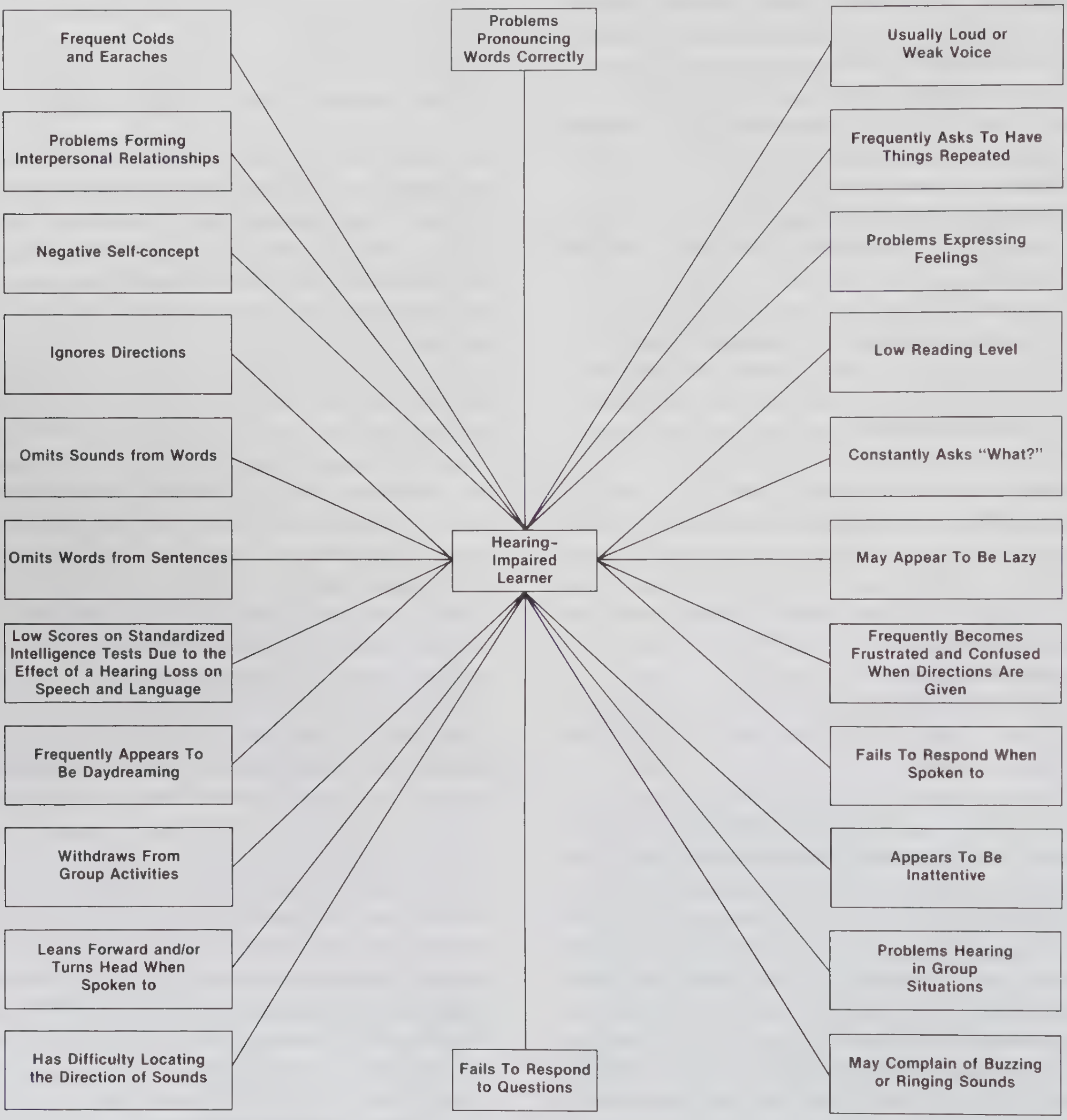
The Bureau of Education for the Handicapped defines hearing-impaired learners as "individuals who have a sense of hearing inadequate for success in learning situations." Figure 2.4 provides an overview of general characteristics often associated with hearing-impaired learners.

Individuals who are hearing-impaired do not have the ability to adequately develop speech, language, and communication skills through the regular hearing process. Their physical, emotional, and intellectual development is comparable to others in their age group. Their problem lies in the area of mastering appropriate speech and language skills. Individuals classified as hearing-impaired are divided into two groups: deaf and hard-of-hearing. Hearing-impaired students, including both deaf and hard-of-hearing learners, need special education services, special train-

Figure 2.4

OVERVIEW OF GENERAL CHARACTERISTICS OF HEARING-IMPAIRED LEARNERS

Some of the general characteristics that hearing-impaired learners *may* exhibit are shown in this figure. Remember that not every hearing-impaired learner will display all of these characteristics.


Frequent Colds and Earaches
Problems Pronouncing Words Correctly
Usually Loud or Weak Voice
Problems Forming Interpersonal Relationships
Frequently Asks To Have Things Repeated
Negative Self-concept
Problems Expressing Feelings
Ignores Directions
Low Reading Level
Omits Sounds from Words
Constantly Asks "What?"
Omits Words from Sentences
Hearing-Impaired Learner
May Appear To Be Lazy
Low Scores on Standardized Intelligence Tests Due to the Effect of a Hearing Loss on Speech and Language
Frequently Becomes Frustrated and Confused When Directions Are Given
Frequently Appears To Be Daydreaming
Fails To Respond When Spoken to
Withdraws From Group Activities
Appears To Be Inattentive
Leans Forward and/or Turns Head When Spoken to
Problems Hearing in Group Situations
Has Difficulty Locating the Direction of Sounds
Fails To Respond to Questions
May Complain of Buzzing or Ringing Sounds

ing techniques, appropriate learning materials, or supplementary aids in order to learn effectively.

Classification in one of these categories is determined primarily by the type and degree of the hearing loss. The degree of the hearing loss is determined by measuring the intensity of sound needed for the person to be able to hear. These tone and frequency levels are measured by an audiometer. Depending on the degree of impairment, students may have problems learning the skills necessary to speak, read, and write in a regular fashion.

The age at which an individual suffered a hearing loss is important. Those who were born deaf or with a hearing loss have difficulty in developing regular speech patterns. They may also have problems developing reading skills. Individuals who had verbal instruction before suffering a hearing loss can rely on their auditory memory as an aid to learning. These people display better speech and language skills and may have higher reading levels as a result of previous learning.

The first three years of life are the most important for learning language and speech. The later in the individual's life the hearing loss occurs, the more capable that person is of understanding language. If the hearing loss occurs after the basics of language have been absorbed, the individual will have a language base. Normal-hearing people acquire all the basic structures of language and a vocabulary of several hundred words by the age of 3. A hearing-impaired child of 5 has a vocabulary of only 50 basic words.

The greatest limitation imposed by a hearing impairment is the delay in speech and language development, which affects the level of communication skills a person has. Many of these individuals have not maintained a similar level of mental and social development to their peers because their limited environment has not allowed for the same type or amount of informal interaction.

Utilizing the skills and cooperative help of hearing specialists and resource personnel, appropriate services can be provided, enabling hearing-impaired individuals to participate fully in regular vocational education programs. Mainstreaming these learners into regular programs allows them an opportunity to develop the coping skills needed for a protective environment.

Deaf Individuals

Deaf means a hearing impairment so severe that the individual is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects (the individual's) educational performance (Public Law 94-142, 121, a.5).

Individuals who are deaf have extreme or severe hearing losses and must use touch, smell, and sight in the learning process. The education of deaf individuals has improved greatly in recent years, in large part because of the advances in technology. This population was formerly educated in separate, local, or regional facilities. This situation is changing as a result of legislation mandating that these learners be educated in the "least restrictive environment." Many of them are now being transferred from separate facilities back to regular programs in local districts.

School districts are now experimenting with various delivery systems to provide these learners with appropriate services and resources from trained specialists.

Hard-of-hearing Individuals

Hard-of-hearing means a hearing impairment, whether permanent or fluctuating, that adversely affects (an individual's) educational performance but which is not included under the definition of "deaf" in this section (Public Law 94-142, 121, a.5).

Individuals who are hard of hearing cannot hear the spoken word as clearly as someone with regular hearing. However, with a hearing aid or other supplemental aids, they can use their sense of hearing to some degree in the learning process.

Hearing aids do not completely correct the hearing problem. Some distortion always exists. These devices do not make words any clearer but only make what is being heard louder. Therefore, hard-of-hearing students never hear exactly what regular students hear. Also, the farther away the student is from the source of the sound, the harder it will be to receive the sound adequately. Because of this, these students should be seated close to the front of the classroom.

Some observations can be used to identify potential hearing-impaired learners. These clues are listed below. Consider referring a student for assessment if he or she displays:

1. lack of attention;
2. difficulty following directions;
3. a habit of turning head to one side (to hear better);
4. a discrepancy between test scores and the observed ability;
5. a hesitancy to participate in large groups, especially where a great deal of talking takes place;
6. a habit of constantly asking to have things repeated.

If a hearing loss is suspected, an audiologist should be contacted. If one is not available, inform the speech therapist, the school nurse, or a psychologist. Former teachers can be contacted to determine whether characteristics are recent or have existed for some time.

Methods of Communicating with Hearing-impaired Learners

All hearing-impaired people have a communication problem to some degree, either in expressing ideas or in understanding language. Not all of these individuals use sign language, wear hearing aids, lipread, or use understandable speech. Hearing-impaired individuals use a variety of methods to communicate with others, including the manual alphabet, a sign language system, lipreading, and total communication. Each separate method or combination of methods helps hearing-impaired persons understand what others are saying and express their own ideas.

1. *Manual alphabet* (fingerspelling) - The manual alphabet is a procedure by which an individual uses different finger positions on one hand to represent the 26 letters of the alphabet. Also called fingerspelling, this technique enables the hearing-impaired person to substitute the words formed by these visual letters for spoken language.

2. *Sign language* - Sign language is a method of receiving and expressing language. Various hand and body movements have been formalized to convey words, concepts, and phrases. Three systems of sign language are the American sign language (AMESLAN), signed English (SIGLIGH), and Techsign.

The *American sign language* (AMESLAN) is a manual language system consisting of signs formed by the hands to represent concepts. This system is a shortcut to having each word presented completely. There are gaps that the hearing-impaired person fills in. For instance, a student using this system would sign "not understand" to mean "I do not understand."

Signed English (SIGLIGH) presents every word that is being said. It does not leave any gaps to be filled in. Using the previous example, the student would sign the complete thought, "I do not understand," rather than an incomplete thought, "not understand."

The *Techsign* project at the Special Services Department of Los Angeles Pierce College has produced vocabulary materials to help hearing-impaired students complete a variety of vocational programs. Many new occupations require highly technical skills. Individuals must understand and communicate technical language to enter these occupations. Hearing-impaired students find it difficult to enter these fields because they do not know the technical sign vocabulary necessary.

Over the past three years, words used in the Techsign vocabulary were collected from instructors and course materials. Definitions were written in non-technical terms wherever possible and new signs were developed in accord with American Sign Language principles. Technical signs are pictured and defined in 13 subject books: advertising art, architecture, automotive technology, business administration and accounting, business law, computer science, drafting, electronics, machine tools, photography, real estate, welding, and woodworking. Each book is available by prepaying $5.00 to Pierce College Handicapped Fund, 6201 Winnetka Avenue, Woodland Hills, CA 91371.

3. *Lipreading* (speechreading) - An acquired skill, lipreading, or speechreading, is another technique used by the hearing-impaired. It is used to comprehend spoken language. This system is not always accurate and the individual gets only some of what is being said.

Hearing-impaired individuals have serious problems when attempting to lipread because 40%–60% of the sounds in the English language look just like some other sound on the lips. Many speech sounds look the same to the hearing-impaired person who is lipreading (e.g., M, P, B). Some sounds cannot be seen at all (e.g., K, G). Vowels are usually the easiest sounds to lipread. Therefore, hearing-impaired individuals probably pick up only between 30%–50% of what the speaker is saying unless they are proficient lipreaders. They watch the speaker's facial expression and rely on the previous content of the conversation, called *context clues*, to piece together what the speaker is saying.

4. *Total communication* - Total communication is a means of receiving and expressing language by using a combination of residual hearing, fingerspelling, sign language, and speaking out loud.

Cooperative Planning with Interpreters

An interpreter is a certified individual who can transmit a verbal or written message to a hearing-impaired person by using one or a combination of the following: sign language, fingerspelling, speech, and residual hearing. An interpreter is sometimes provided for hearing-impaired students who are not totally proficient at lipreading. This person interprets what the teacher is saying in class to the hearing-impaired student through signing. This process involves a combination of fingerspelling, American sign language, and mouthing the words. The interpreter usually stands within several feet of the teacher during a lecture or demonstration so that the hearing-impaired student can watch both interpreter and teacher. Students should be seated away from any glaring light and in a spot that will enable them to see clearly. Teachers should check with the interpreter to determine whether they are talking too fast, especially when technical terms are being used. These terms must be completely spelled out by the interpreter and will take longer to interpret. There may also be times when the interpreter will ask to have information repeated.

It is often helpful for the interpreter to have a copy of lecture or class notes prior to the class session. This material will then be more familiar to the interpreter. Key concepts can be introduced to hearing-impaired students by the interpreter before they are presented in class. A list of relevant vocabulary and technical terms should also be provided for the interpreter. Otherwise, these students may become confused and frustrated when new material and unfamiliar terms are used in class.

The vocational teacher should establish a positive working relationship with the interpreter. Cooperative planning helps provide hearing-impaired students with the best possible means of communication in the vocational program. Both and interpreter and the hearing-impaired students should take part in the cooperative planning process so that realistic goals can be established and implemented.

Specialized Equipment and Materials

The following equipment and materials may be used with hearing-impaired students.

Equipment

1. Lights can be installed on machinery and equipment to indicate when they are operating.
2. Visible warning signals can be attached to warning bells to ensure proper safety (e.g., flashing lights).
3. Amplifiers and headphones can be helpful with hard-of-hearing students.
4. A notetaker, a small, portable, lightweight, and soundless typewriter, can be set up on a desk. The notetaker automatically provides a printout for the individual.

Materials

1. Visual materials such as transparencies, films with captions, slides, and charts are helpful in illustrating a point.

Working with Hearing-impaired Learners in Vocational Programs

Some general suggestions for vocational teachers who work with hearing-impaired learners follow.

1. Assess the learner's abilities in the following areas in order to plan and implement instruction effectively—
    a. intellectual potential
    b. language development
    c. residual hearing ability (ability to hear after hearing loss)
    d. lipreading/speechreading ability
    e. manual communication ability.
2. Follow a routine when the learner first enrolls in your program to establish structure and minimize apprehension.
3. To get the attention of a hearing-impaired learner, call his or her name or gently tap his or her shoulder.
4. Seat students near the front of the room to make lipreading easier.
5. Seat students in the best lighting conditions. The lighting in the room may have to be modified accordingly.
6. If the classroom or laboratory is darkened for slides, films, or videos, make sure there is enough light on the face of the teacher for the hearing-impaired learner to follow any discussions or questions.
7. Try to have as much natural light as possible in the classroom or laboratory. Fluorescent lights tend to make lipreading much more difficult.
8. If there is an interpreter for the hearing-impaired student, arrange for the interpreter to be seated next to the hearing-impaired student.
9. Present students and/or their interpreter with a copy of your class outline or notes before you begin teaching so they can familiarize themselves with the content of the instruction and be better prepared to keep up in class.
10. Select hearing volunteers from the class to take notes using carbon paper so that hearing-impaired students can concentrate on the teacher. Peer tutors can help these students review class notes and complete laboratory assignments.
11. When hearing-impaired students work in noisy areas, such as a laboratory, advise them to turn the volume on their hearing aids down.
12. The reading level of materials should be considered when assigning work. These students often have reading levels below grade level.
13. Use concrete examples whenever possible.
14. Ask students to explain new material to you after you have introduced it. This will allow you to judge whether or not students comprehend material you have presented to them.
15. Avoid multiple meanings of vocabulary words until students understand the most commonly used meanings.
16. List key vocabulary words on the chalkboard before discussing new material.
17. Provide students and/or interpreters with related vocabulary words and technical terms and their definitions so they may develop a basic understanding.
18. Face students when you are talking and make sure you have their attention before speaking. For instance, if you are writing on the chalkboard and talking at the same time, they will not know what you are saying. Instead, write on the board, face the class again, and begin speaking. Maintaining eye contact is very important.
19. Use visual techniques whenever possible, including demonstrations, hands-on experiences, charts, and diagrams, as opposed to the lecture approach.
20. Speak at a normal pace and at your usual volume. Students who lipread learn to do so with normal speech patterns and volumes. However, if your normal rate of speaking is very fast, try to slow down.
21. A tape recorder can be used if the hearing-

impaired student can arrange to have someone transcribe the tape into written form.

22. Encourage learners to ask to have statements repeated when they do not understand what has been said.

23. Learners should be told when they are speaking too loudly or too softly. Be honest and open with them.

24. Be aware of possible safety hazards in the areas where hearing is needed to detect signals or warnings (e.g., fire alarm or dangerous equipment). Flashing lights can be installed to warn the hearing-impaired person of the hazard.

25. Hearing-impaired learners may tire easily from the constant strain of trying to keep up with and competing in classroom discussion or lectures. Vary classroom and laboratory activities to give them a break.

Meet Tom, a Learning-disabled Student. . .

Tom is 16 years old and is enrolled in a high school machine shop program. Mr. Grange, the teacher, noticed that Tom performed inconsistently in class. Some days he would be inattentive and uninterested in classroom activities. On those days Tom would not listen to directions and would be unorganized when working on assignments. On other days, however, Tom would be attentive and work well. He would frequently ask questions during class demonstrations and discussions and show leadership during small group activities.

Tom reads several grade levels below average. His spelling is poor and his handwriting is hard to read. He has problems reading, comprehending, and completing math problems. However, he easily understands concepts when they are presented verbally in class.

Recently, Mr. Grange worked with Mr. Powell, the resource room teacher who works with learning-disabled students. Mr. Grange learned that Tom has above-average intelligence but his problem is with visual perception. His most effective mode of learning is through auditory methods.

Mr. Grange and Mr. Powell are now cooperatively planning Tom's program. Mr. Grange is using appropriate teaching techniques to meet Tom's needs. Mr. Powell is working with him in the resource room one period per day to help with related academics. Tom is now showing remarkable progress in the machine shop with this support help.

LEARNING-DISABLED LEARNERS

Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include (individuals) who have learning problems that are primarily the result of visual, hearing, or motor handicaps; or of mental retardation; or of environmental, cultural, or economic disadvantage (Public Law 94-142, 121, a.5). Figure 2.5 shows an overview of general characteristics often associated with learning-disabled students.

The area of learning disabilities is the most recently established category of handicapped learners. In the past, problems arose over an accepted definition for this group of individuals. Until the 1960s many learning-disabled students were often mislabeled and placed in special education programs designed for mentally handicapped or emotionally disturbed students. Today, however, it is understood that these individuals have unique learning problems.

Learning disabilities are usually caused by (a) an emotional or behavioral disturbance or (b) a weakness or injury to the brain area. As a result, these individuals may have difficulty using certain muscles, remembering, seeing, hearing, comprehending, or controlling their behavior in a given situation.

Recent studies conducted to find the causes of learning disabilities have centered on the separate workings of the left side of the brain (which controls logic, language, etc.) and the right side of the brain (which controls creativity, art, music, etc.). The findings show that learning disabilities involve only part of the brain. This helps explain the unusual pattern of learning problems and talent that characterize many learning-disabled individuals.

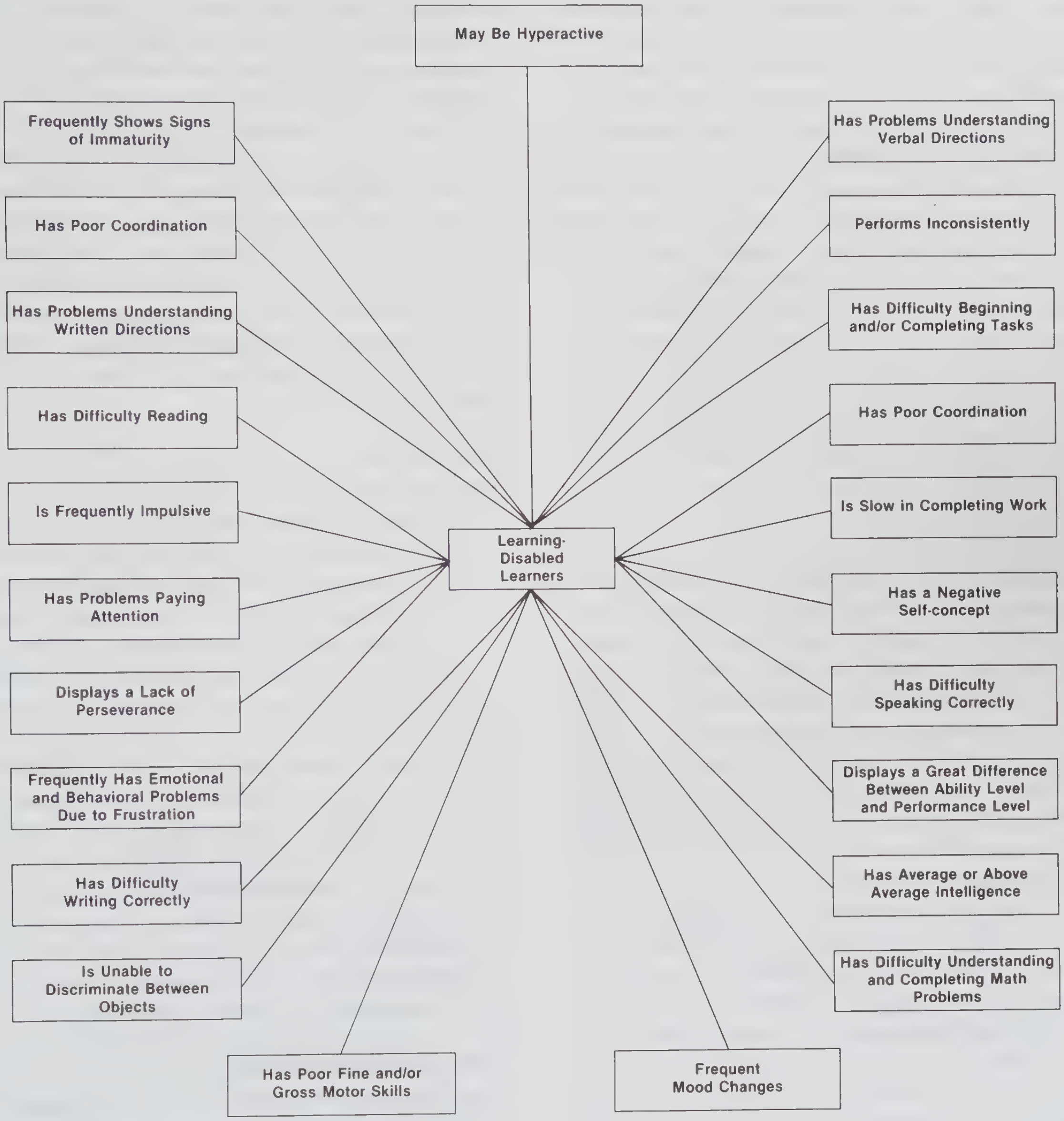
The child-psychiatry branch of the National Institute of Mental Health (NIMH) attributes learning disabilities to neurological defects that develop in the back part of the left hemisphere of the brain before the child is born. It appears that some nerve cells do not migrate as they should to a specific point in the brain during fetal development.

Dr. Shelley Smith, a geneticist at the Boys' Town National Institute for Communication Disorders in Children, in Omaha, speculates that a particular chromosome (number 15) may carry the genetic message that disrupts some of the cells. Dr. Norman Geschwind of Boston Children's Hospital has done research that shows how excess testosterone (male hormone) slows growth on the left side of the brain. This may explain why boys with learning disabilities outnumber girls by almost five to one (Silberman, 1985).

Figure 2.5

OVERVIEW OF GENERAL CHARACTERISTICS OF LEARNING-DISABLED LEARNERS

Some of the general characteristics that learning-disabled learners *may* exhibit are shown in this figure. Remember that not every learning-disabled learner will display all of these characteristics.


May Be Hyperactive
Frequently Shows Signs of Immaturity
Has Problems Understanding Verbal Directions
Has Poor Coordination
Performs Inconsistently
Has Problems Understanding Written Directions
Has Difficulty Beginning and/or Completing Tasks
Has Difficulty Reading
Has Poor Coordination
Is Frequently Impulsive
Is Slow in Completing Work
Learning-Disabled Learners
Has Problems Paying Attention
Has a Negative Self-concept
Displays a Lack of Perseverance
Has Difficulty Speaking Correctly
Frequently Has Emotional and Behavioral Problems Due to Frustration
Displays a Great Difference Between Ability Level and Performance Level
Has Difficulty Writing Correctly
Has Average or Above Average Intelligence
Is Unable to Discriminate Between Objects
Has Difficulty Understanding and Completing Math Problems
Has Poor Fine and/or Gross Motor Skills
Frequent Mood Changes

Many talented individuals have overcome their learning disabilities and have made positive contributions to society. Some of these individuals include Hans Christian Anderson, Leonardo da Vinci, Winston Churchill, Thomas Edison, Woodrow Wilson, Nelson Rockefeller, and Albert Einstein.

A 1976 investigation by the U.S. General Accounting Office (GAO) on the relationship between learning disabilities and juvenile delinquency indicated that:

1. much delinquency can be traced to learning handicaps; and

2. much of the $16 billion annual cost of crimes committed by juveniles could be reduced if learning disabilities could be discovered and corrected early.

It is difficult to place learning-disabled individuals in discrete categories. Some may have perfect sight yet do not correctly interpret visual stimuli. Rosita, for example, is a very bright girl. She quickly memorizes everything she hears in classes, so she has never had a problem with "reading." However, Rosita cannot read any isolated word, although her vision is perfect. She cannot see how one word differs from another because she cannot remember how the letters look. Her writing is messy and of an uneven fashion.

Some learning-disabled individuals may have perfect hearing yet fail to discriminate specific sounds, sound blends, or even words, as in the case of Eric. Eric has trouble remembering what he hears. He hears the teacher say, "Go to your work stations, put on your safety glasses, select the proper tools for the assignment, follow the plan of procedures, and write your activity summary on a piece of notebook paper and turn it in at the end of the class." He finds it impossible to follow so many directions at one time and becomes frustrated. Eric asks the teacher to repeat the directions but is told that he is not paying attention and could do better if only he would pay attention and try harder.

With learning disabilities, a specific learning passage (e.g., auditory, visual, psychomotor) is partially impeded or blocked. This handicapping condition almost always affects academic performance (e.g., understanding or using language, reading, writing, spelling, math). Learning-disabled individuals may have average or above-average intelligence but are often slower in achieving basic skills. These individuals almost always have emotional and behavioral problems because they have so much potential but have suffered so many failures and frustrations in school. This can be seen in the case of Ann.

Ann is easily distracted. She cannot sit still for more than a minute. She knows she is not acting the way her peers act, but it is difficult for her to control her actions. Her hyperactivity has become a learning barrier. In defense she becomes the class clown, hiding her frustrations and insecurities and trying to gain attention.

Some general characteristics associated with learning disabilities include:

1. learning problems in academic areas such as reading, spelling, writing, and/or math (although performance may vary from one subject to another);
2. poor coordination;
3. perceptual problems (visual, auditory, psychomotor);
4. impulsiveness;
5. emotional insecurity;
6. hyperactivity;
7. short attention span; and
8. slow language development.

Overall, students with learning disabilites have average or above-average intelligence. They are usually capable of performing well, but their school records are usually poor. Many times their grades in one class differ greatly from their grades in another. These students are sometimes described as having "hidden" handicaps because they may be able to cover up their weaknesses by emphasizing their strong points. They learn in different ways from their peers. Their main problem can be described as a great discrepancy between the ability level and the performance level. Weaknesses are usually most evident in reading and math. Such students often have low motivation and a general lack of interest in schoolwork. Problems associated with learning disabilities are found in the areas of behavior, perception, motor activities, and language development.

Behavioral or Emotional Problems

Learning-disabled individuals often have behavioral or emotional problems and are frustrated because their disability makes it difficult for them to succeed in school. They may exhibit the following characteristics:

1. inappropriate reactions to frustrating situations;
2. inability to stay with one task or activity;
3. inability to develop positive peer relationships;
4. hyperactive (overly active) or hypoactive (slow to respond) behavior;
5. inability to shift from one task to another with ease;
6. difficulty developing appropriate problem-solving skills;
7. lack of emotional stability;
8. short attention span;
9. low self-concept;
10. insecurity;
11. overdependence on others.

Perceptual Problems

Learning-disabled individuals may have perceptual problems in which their central nervous system is affected, which result in learning and behavior problems. They have problems identifying, discriminating, and interpreting information. They also have definite weak and strong learning modes (i.e., visual, auditory, tactile) and must be taught through their strong learning modes in order to profit from instruction.

Problems in perception are usually visual and/or auditory. These individuals see and hear things in a distorted manner because their brain does not have accurate perceptions. However, their sight and vision are normal. These learners may exhibit the following characteristics:

a. *Visual perception.* An individual with problems in visual perception may not be able to discriminate visual stimuli accurately (substitutes "m" for "w" or cannot discriminate between an object and its background) and may not be able to recall previously presented visual stimuli. Specific characteristics include:

1. difficulty recognizing letters and figures;
2. problems with left-to-right progression;
3. reverses letters in words (*was* for *saw*, *b* for *d*);
4. difficulty reading and comprehending written directions;
5. difficulty interpreting words (for example, the word *engine* might appear to be *sncinc*);
6. difficulty remembering what was read;
7. difficulty judging distance or size;
8. looks up frequently when copying from the board;
9. avoids close desk work;
10. can follow verbal instructions but has difficulty with written instructions;
11. forgets things that have been seen (e.g., demonstrations in class);
12. repeats or omits words when reading and confuses words that look alike.

Individuals who have dyslexia exhibit many of these characteristics. Individuals with dyslexia cannot read well even though they have average or above-average intelligence and adequate vision and hearing. Their problem is not intellectual ability, but their ability to translate symbols. For example, they may see the word *reserve* as *reverse* and the word *there* as *three.*

If individuals with dyslexia knew what the words were they would probably have no trouble comprehending them. Professionals think that as much as 15% of the male population in the world are dyslexic to some degree and as much as 4% of the female population. This condition runs in families.

b. *Auditory perception.* Learners with difficulty in auditory perception may not be able to discriminate between background noise and the main sound source. These learners may also have problems understanding spoken language because of difficulty discriminating between letters, words, and sentences. Auditory recall may also be poor. Specific characteristics include:

1. difficulty recognizing sounds;
2. difficulty understanding verbal directions;
3. difficulty remembering what was heard;
4. difficulty comprehending a series of directions;
5. difficulty remembering what was discussed in class;
6. seems overly attentive when verbal instructions are given;
7. gives inappropriate or wrong answers to clear questions;
8. understands better on a one-to-one level;
9. cannot follow oral directions and frequently asks that instructions be repeated;
10. cannot distinguish between similar sounding words or numbers (e.g., *tired-tried, 689-986*).

Individuals who have aphasia exhibit many of these characteristics. Aphasia is an auditory disability, usually the result of brain damage, that affects the ability either to send out or take in clear mesages. Aphasia involves misinterpreting what is heard. Individuals with aphasia have no difficulty reading someone else's notes, but find it hard to take notes themselves because they cannot be sure that what they hear is correct.

Motor Activity Problems

Learning-disabled individuals may have problems with hands-on activities. These students have difficulties in three general areas:

1. interpreting body language (when someone nonverbally shows displeasure at their work or behavior, they do not recognize it);
2. interpreting objects (e.g., they do not understand the relationship between smoke and fire);
3. interpreting specific situations (seeing a demonstration table set up in the front of a classroom with the instructor and class around it does not tell the student that there is going to be a demonstration in class).

Specific characteristics include:

1. lack of balance;
2. awkwardness when completing tasks;
3. lack of coordination;
4. poor gross and/or fine motor abilities;
5. difficulty telling the difference between left and right (orientation problems);
6. saying or writing the same thing repeatedly;
7. poor tactile discrimination;
8. inaccuracy in reaching for and grasping objects;
9. writing or drawing problems;
10. slow to finish written work—the finished product is sloppy, with heavily drawn letters, either very small or very large;
11. inability to organize, has no pattern in keeping a notebook, filing papers;
12. shows no definite hand preference but first uses one hand and then the other.

Language Development Problems

Learning-disabled individuals may have problems in language development and difficulty expressing ideas and putting words in correct sequential order. Problems with grammar usually accompany this area of learning disabilities.

Specific characteristics include:

1. limited verbal speech patterns;
2. poor grammar;
3. poor sentence structure;
4. difficulty understanding the concept of time (today, yesterday, tomorrow);
5. difficulty putting concepts or thoughts into words.

Learning Modes

Learning-disabled students must be taught through their strongest learning modes. Although these individuals are capable of learning, many have difficulty learning through traditional teaching methods. The proper learning mode or style for each learning-disabled student must be identified. Some students learn best using a visual approach, others should have auditory training, and still others benefit most from hands-on experiences. When an appropriate learning style is used with these learners, vocational skills can be developed that will enable them to enter and contribute to the labor force.

Most learning-disabled students attend regular education programs. However, they usually receive their primary support services in a resource room. Resource room personnel can be very helpful to vocational teachers in planning an appropriate program for these students as well as helping them with the related academic work.

Working with Learning-disabled Learners in Vocational Programs

Some general suggestions for vocational teachers who work with learning-disabled students follow.

1. Identify the strong learning mode for each student. Special education personnel can tell you whether students learn better visually, auditorily, or through hands-on experiences. Appropriate program planning should then be developed.

2. Tape-record lessons, directions, and assignments for students who are auditory learners. This method allows them to learn through the auditory channel and provides them with ample opportunity to review.

3. Use visuals and demonstrations as often as possible when explaining new concepts. This especially helps students who are visual learners. Provide hands-on activities to reinforce classroom instruction and discussions.

4. Use concrete examples whenever possible. Abstract concepts confuse and frustrate these students.

5. Allow students to use a typewriter in preparing assignments and tests so they do not have to worry about making letters. This method also helps them put letters and words into proper sequence.

6. Provide students with an outline of what you will be covering in class. They can review this material before and after it is presented. It can also be an aid to the resource teacher who will be reinforcing what you are teaching in your program.

7. Make sure all printed materials are clear and readable. Faded printing only adds to the problems these students have in reading and comprehending written materials.

8. Allow students to tape-record assignments if they have visual perception problems.

9. Allow students to take tests orally. Having special education personnel or a teacher's aide read test questions aloud and taping the responses is a highly successful technique.

10. Present new information in small amounts. Students become confused and frustrated if confronted with too much new material at one time. Make sure they overlearn one concept before going on to the next.

11. Make sure that writing assignments are relevant to the content of the program. Writing is often difficult for these students and "busy work" overwhelms them and makes them react inappropriately.

12. Allow students a longer period of time to complete assignments, if necessary.

13. List assignments in steps. These students have a difficult time remembering a series of directions. They can follow directions more easily when given one at a time.

14. Task analysis can be used to lower the frustration level of these learners. It allows them to progress at their own pace and offers immediate feedback after each step.

15. Student-teacher contracts can be used to identify specific tasks or assignments along with corresponding time limitations. In this manner, students know exactly what is expected of them and how long they have to complete assigned work.

16. Programmed instruction materials and individualized instruction techniques are both very effective with these learners.

17. Because learning-disabled adolescents and adults have had a chance to develop coping strategies to compensate for their disability, they may be able to hide such problem areas as hyperactivity, memory and at-

tention disorders, and the inability to read. Do not be fooled by these compensation strategies. The learning-disabled adolescent or adult is likely to demonstrate a mixture of strengths and weaknesses and will need different assistance than handicapped individuals who have the same general problem areas. By the time learning-disabled individuals reach high school or postsecondary school, they are likely to have a reduced self-image, poor self-concept, and lack of motivation, which accompany these negative feelings.

Meet Charles, a Speech-impaired Learner. . .

Charles is 17 years old and is enrolled in a heating, air conditioning, and refrigeration program. Charles was very shy and withdrawn when he first entered the program. Mr. Porter, the teacher, learned that Charles has a problem with stuttering and delayed speech. Because of his speech problem, Charles is hesitant to talk to anyone in the class or to participate in group laboratory activities.

Miss Larsen, the district communication specialist, works closely with Charles and Mr. Porter to help make the placement in the program a successful one. She spends several hours a week with Charles, both in individual speech therapy sessions and in the vocational classroom. Miss Larsen also works with Mr. Porter to help him develop appropriate techniques to use with Charles. Mr. Porter now feels much more comfortable communicating with Charles. Gradually, Charles is gaining confidence in himself because he has successfully completed various assignments. This has helped his stuttering and delayed speech and prompted him to participate in several small group activities.

SPEECH-IMPAIRED LEARNERS

Speech-impaired means a communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects (an individual's) educational performance (Public Law 94-142, 121, a.5). Figure 2.6 shows an overview of general characteristics often associated with speech-impaired learners.

Individuals are classified as speech-impaired if their speech patterns differ from the normal. These speech disorders can interfere with their ability to communicate with others and cause them to be maladjusted. They are not recognized as being handicapped until they speak. Therefore, they are often withdrawn and have problems developing interpersonal relationships.

Speech handicaps are very common in individuals who have cerebral palsy, brain damage, hearing loss, or a cleft palate. However, most people who have a speech impairment have normal intelligence and motor abilities.

Speech-impaired individuals may have problems such as (a) pronouncing words incorrectly, (b) lisping, (c) stuttering, (d) speaking too loudly or too softly, (e) delayed speech, (f) leaving sounds out of words, (g) adding sounds to words, and (h) uneven rhythm of words. Speech-impaired students usually have limited vocabulary and many have low reading levels.

Individuals are identified as speech-impaired through diagnostic testing by speech clinicians. After the evaluation, the speech specialist develops a plan for correcting the specific problem areas. Speech therapists and communications specialists are professionals trained to help remediate speech impairments. In many school districts, itinerant speech therapists travel to several schools to serve all students with speech impairments. These personnel work with regular classroom teachers who have speech-impaired students in their classrooms. Speech and hearing clinics are also available in many communities. They are found in hospitals, clinics, and universities.

Resource rooms are often available in schools to help students with academic problems associated with a communication handicap. These support people can help speech-impaired learners with related academic work necessary to succeed in the vocational program.

Individuals with speech impairments are found in all areas of the work force. They have no problems developing the specific skills necessary for employment. They may, however, need some help in personal adjustment to learn to cope with their handicap.

Working with Speech-impaired Learners in Vocational Programs

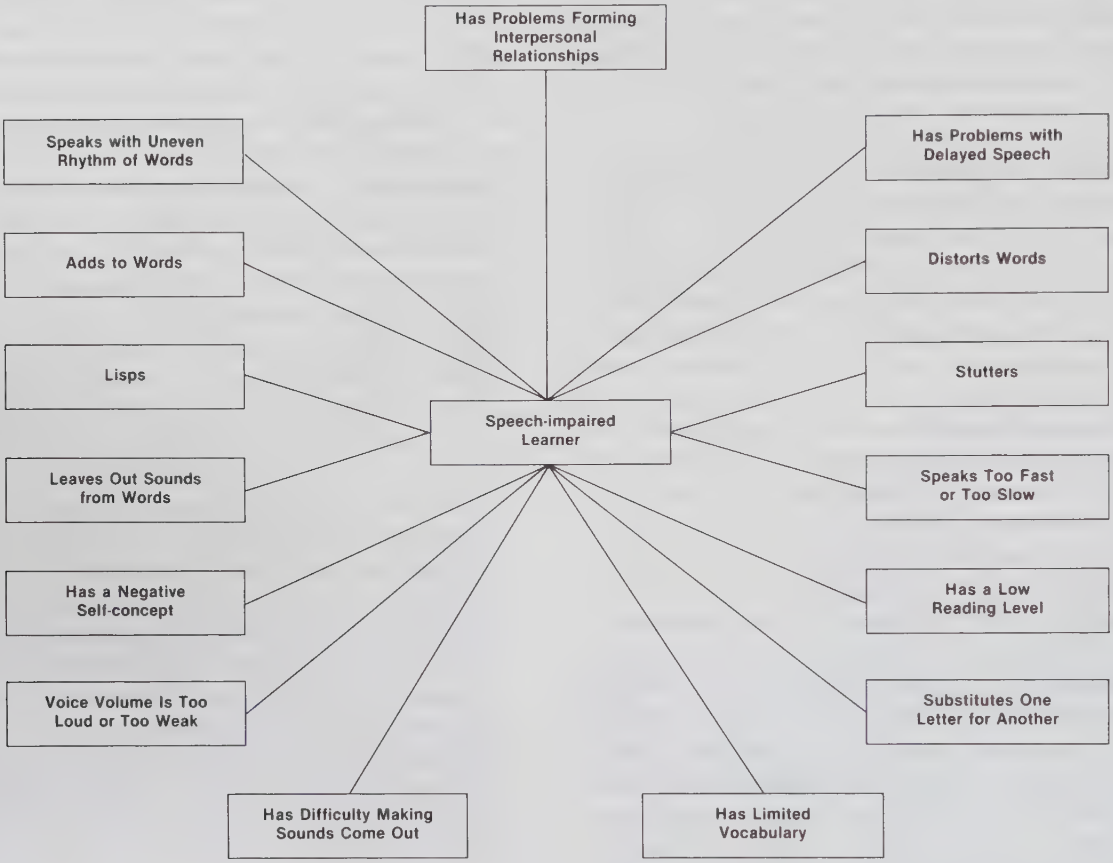
Some general suggestions for vocational teachers who work with speech-impaired learners follow.

1. Always maintain eye contact with students when they are having difficulty communicating (e.g., stuttering, delayed speech). This will give them the confidence to complete their message.
2. Work cooperatively with the speech therapist and/or communication specialist to determine which technique will help most in assisting students to communicate effectively.
3. Encourage peer tutoring and small group activities that will help to promote positive interpersonal relationships with other students in the class. Acceptance and improved self-concept can help them to improve their speech patterns. Likewise, nervousness and

Figure 2.6

OVERVIEW OF GENERAL CHARACTERISTICS OF SPEECH-IMPAIRED LEARNERS

Some of the general characteristics that speech-impaired learners *may* exhibit are shown in this figure. Remember that not every speech-impaired learner will display all of these characteristics.


Has Problems Forming Interpersonal Relationships
Speaks with Uneven Rhythm of Words
Has Problems with Delayed Speech
Adds to Words
Distorts Words
Lisps
Stutters
Speech-impaired Learner
Leaves Out Sounds from Words
Speaks Too Fast or Too Slow
Has a Negative Self-concept
Has a Low Reading Level
Voice Volume Is Too Loud or Too Weak
Substitutes One Letter for Another
Has Difficulty Making Sounds Come Out
Has Limited Vocabulary

uneasiness can make the speech impairment worse.

4. Develop a list of technical terms and vocabulary frequently used in the program. This list should be shared with the speech therapist or communication specialist to help these students become familiar with the terms and feel more comfortable pronouncing them aloud. Flash cards can be used to practice correct pronunciation (especially for technical terminology).

5. Always allow students sufficient time to complete their sentences. Do not try to finish their thoughts for them when they have difficulty talking.

6. Speech impairments are often associated with a hearing impairment. Refer individuals who display the characteristics of a speech impairment for a hearing test.

7. Speech impairments can often be the result of dental problems. The school clinic should be able to help set up a dental appointment. An examination can determine whether a condition such as an extreme overbite is the cause of the speech impairment.

8. Try not to act uncomfortable when these students are communicating with you. If you appear to be embarrassed it will make students uncomfortable and the abnormal speech patterns may increase. For example, signals such as discontinuing eye contact, shifting your position, clearing your throat, or focusing on the floor while the individual is having difficulty

delivering a message can be very discouraging.

9. Do not force students to prepare oral presentations or reports for the rest of the class until they are established and feel comfortable in the classroom environment. As speech-impaired students begin to feel accepted in the class and experience success, they will be able to assume more responsibilities. This will encourage them to speak more openly in class.

10. Check the reading level of the students. Many speech-impaired individuals have low reading levels, resulting from their disability. Revise your course materials accordingly.

11. Nod your head while students are talking to give them support and confidence.

12. Model correct sentence structure for the learners so they can follow your example.

Meet Maria, a Health-impaired Learner. . .

Maria is 40 years old and is enrolled in a health occupations program at the postsecondary level. Maria has a heart condition and severe problems with allergies. She stayed at home until her children were well established in school before deciding to return to school to become a dental hygienist. Maria discussed her health-related problems with Mrs. Desmond, the health occupations teacher, after enrolling in the program. Mrs. Desmond's primary concern was what she could do to modify the program, if necessary, to meet Maria's special needs.

After discussing the program requirements and specific job entry-level requirements, it was determined that substantial program modifications would not be necessary. Maria may have to miss days when her allergies impair her performance. Mrs. Desmond has offered to tape lectures and provide access to the laboratory for make-up work in the event of Maria's absence. Maria is under the supervision of her family physician. She takes medication every day for her heart condition and receives frequent allergy shots. She has lived with her health impairment long enough to realize her own limitations.

Maria must be careful with her diet, eliminating those things she is allergic to. She must also be careful not to overtax her strength. Keeping these limitations in mind, Maria should have no problem completing the course or in finding employment in her chosen area.

HEALTH-IMPAIRED LEARNERS

Other health impaired means limited strength, vitality or alertness, caused by chronic or acute health problems such as heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which adversely affects (an individual's) educational performance (Public Law 94-142, 121, a.5). Figure 2.7 shows an overview of general characteristics often associated with health-impaired learners.

Individuals who are classified as health-impaired have chronic health problems that affect their strength and vitality. These conditions also affect their ability to participate in regular classes without some special consideration. These learners tire easily and may need an opportunity to rest during the school day. They may also appear to be frail. Often they are described as inattentive.

Some defense mechanisms that health-impaired learners may develop as a result of their condition include:

1. denial,
2. withdrawal,
3. depression,
4. high anxiety levels,
5. hostility,
6. living in a fantasy world, and
7. overdependency on parents, teachers, siblings, peers, or others.

Some of the problems associated with health impairments are presented as follows.

1. They may have economic problems because the high cost of hospitalization, prescriptions, special diets, medical bills, and operations can become enormous.

2. Transportation may be difficult in taking these learners in and out of school frequently for appointments with doctors, specialists, and at clinics.

3. Interpersonal relationships are limited because of the amount of time health-impaired learners spend out of school and apprehensions or misunderstandings from the peer group.

Students who are health-impaired frequently miss school because of health problems. In many districts they are eligible for home instruction. Home instruction teachers act as a liaison between the home and the school. These personnel can help the regular classroom teacher in transferring work from the school to the student and in providing remedial instruction. Many districts have one or more itinerant home instuction teachers who provide services to hospital/homebound students in all the schools.

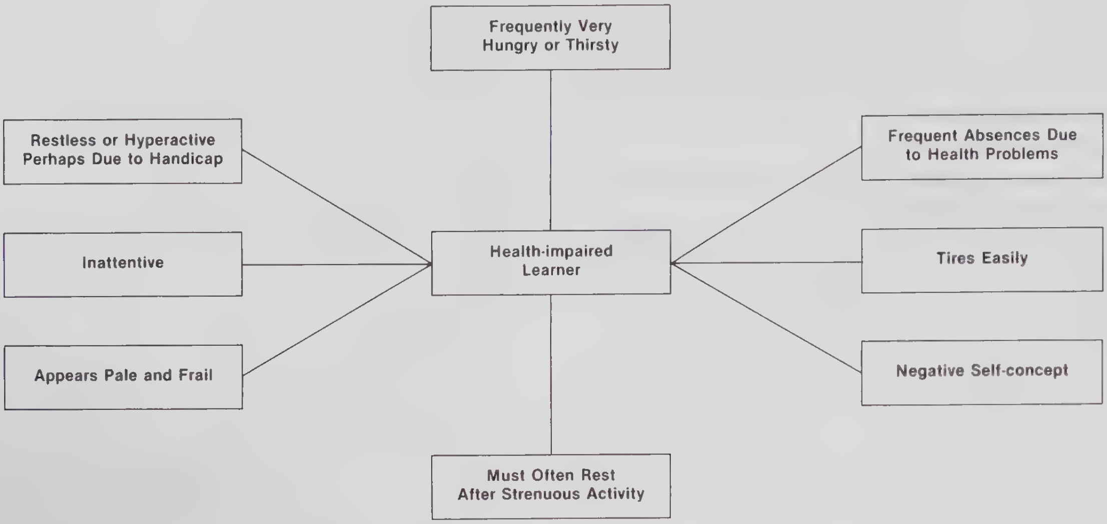
Health-impaired students should be encouraged to return to school as soon as possible for proper mental development. If kept at home, the student may possibly think that their condition is terminal and that there is no hope.

Advances in medical technology make it easier for

Figure 2.7

OVERVIEW OF GENERAL CHARACTERISTICS OF HEALTH-IMPAIRED LEARNERS

Some of the general characteristics that health-impaired learners *may* exhibit are shown in this figure. Remember that not every health-impaired learner will display all of these characteristics.


Frequently Very Hungry or Thirsty
Restless or Hyperactive Perhaps Due to Handicap
Frequent Absences Due to Health Problems
Inattentive
Health-impaired Learner
Tires Easily
Appears Pale and Frail
Negative Self-concept
Must Often Rest After Strenuous Activity

health-impaired individuals to participate more fully in vocational programs. For example, a new device called a Button Infuser has been developed at the University of Wisconsin for diabetics who need daily insulin injections. Instead of giving themselves numerous shots, diabetics can now wear a Button Infuser, a penny-sized plastic disk attached to a small needle that is inserted under the skin. The insulin is injected into the needle through a resealable cap. The Button Infuser is held in place, usually above the beltline, for up to three days by a soft adhesive pad. A painless nasal spray that delivers insulin to diabetics has been developed by researchers at Harvard Medical School as an alternative to injections and pills required by many diabetics.

St. Jude Children's Research Hospital in Memphis, Tennessee reports that modern treatment with powerful anticancer drugs, plus radiation and other treatment to clear leukemic cells from the nervous system is resulting today in many cures. More than one-third of the leukemic children reported in the St. Jude study went into remission (free of the cancer) for four years after treatment ended—and relapse beyond that point is so rare that doctors consider them cured. The students in remission will return to school to continue their education.

Working with Health-impaired Learners in Vocational Programs

Some general suggestions for vocational teachers who work with health-impaired learners follow.

1. Work cooperatively with the health team in order to get to know more about the learner's special needs.

2. Use available community agencies' resource personnel (social workers and itinerant teachers for homebound students). These resource people can deliver materials, assignments and handouts to health-impaired students and often provide remedial instruction.

3. When students do attend school, allow them sufficient time to rest during the day. Cooperative plans can be made with school health personnel. For example, arrangements can be made with the school nurse to allow these students to use the clinic's facilities, an

empty classroom, or a vacant office during their study periods to rest.

4. Arrange to seat the student in the most convenient place for easy access to necessary facilities (hall, lavatory, chalkboard, laboratory work stations).

5. Assess the learner's health problems and abilities (physical, academic, and social) and relate this information to your vocational program, the exit points, and entry-level competencies so that necessary modifications can be made. Vocational counseling may be needed at this time if severe difficulties arise.

6. Identify special materials, equipment, or aids that will adequately meet the needs of the learner and local agencies and/or special funds that can help to provide them.

7. Allow students to work on program requirements at their own pace.

8. Individualized instruction and programmed instruction materials are very helpful in planning for these students.

9. Tape lectures so that these students can listen to them at home. This helps them keep up with the instructional content of the program.

10. Cooperatively assess the stamina and strength requirements involved in your program with support personnel to determine whether the limitations of the students are too great to allow them to succeed.

Meet Matt, a Physically Handicapped Learner. . .

Matt is 30 years old and is enrolled in a drafting program at the postsecondary level. Matt had polio as a child. As a result, he has to wear braces and use crutches to walk. Matt had a brief exploratory experience in drafting during high school. He has now decided to return to school to become a drafter.

Matt has had a few difficulties since he entered the program. Mr. Lane, the teacher, checked to make sure that the classroom was accessible. A few desks were rearranged to make the aisles wider. He also made a convenient space available where Matt can store his crutches. A drafting table was adapted with an adjustable top so Matt can use it in a sitting position or when he stands. Matt often prefers to work in a standing position because his legs become cramped when he sits too long.

Mr. Lane feels that Matt is performing very well in the program and has assured him that he should have no trouble finding a job when he completes the program.

ORTHOPEDICALLY OR PHYSICALLY HANDICAPPED LEARNERS

Orthopedically impaired means a severe orthopedic impairment which adversely affects (an individual's) educational performance. The term includes impairments caused by congenital anomaly (e.g., clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns which cause contractures) (Public Law 94-142, 121, a.5). Figure 2.8 shows an overview of general characteristics often associated with physically handicapped learners.

Learners in this category have a variety of unique characteristics. They differ as much from one another as nonhandicapped people do. Often the specific statements made about them refer to the degree of the disability rather than to the disability itself. Examples of physical disabilities are (a) amputations, (b) cerebral palsy, (c) multiple sclerosis, (d) muscular dystrophy, (e) back or spinal injuries, (f) polio (poliomyelitis), and (g) cystic fibrosis.

Learners who are physically disabled represent a wide range of performance and ability levels. Some individuals have only mobility problems while others have trouble developing appropriate work tolerance levels. Therefore, such factors as physical strength, motor ability, muscular control and coordination must be considered for each individual when developing and/or modifying vocational instruction.

The first and foremost objective in planning for these students is to provide access to the classroom, laboratory, machinery, equipment, and tools. Common architectural barriers that prevent physically handicapped students from participating in regular programs include doorways and aisles that are too narrow, worktables that are too high or too low, slippery floors, the absence of ramps and handrails, inadequate restroom facilities, lack of elevators, and height and placement of controls on machinery and equipment.

Accessibility

The Rehabilitation Act of 1973, Section 502, and the Architectural Barrier Act of 1968 (P.L. 90-480) specifically state that any institution built by or receiving federal funds will make all reasonable efforts to eliminate architectural barriers and promote unrestricted accessibility. For the physically handicapped student this includes public education facilities.

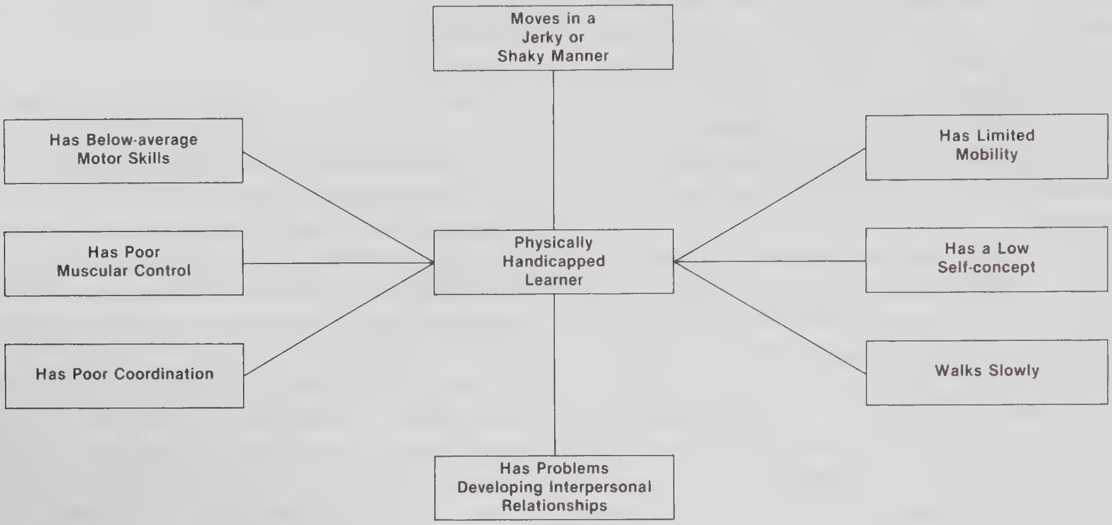
Most institutions rely on information published by the American National Standards Institute (ANSI) to assist them in complying with barrier-free design. An example of an architectural accessibility checklist is provided at the end of this module, preceding the Reference section.

Architectural accessibility is crucial if physically

Figure 2.8

OVERVIEW OF GENERAL CHARACTERISTICS OF PHYSICALLY HANDICAPPED LEARNERS

Some of the general characteristics that physically handicapped learners *may* exhibit are shown in this figure. Remember that not every physically handicapped learner will display all of these characteristics.


Moves in a Jerky or Shaky Manner
Has Below-average Motor Skills
Has Limited Mobility
Has Poor Muscular Control
Physically Handicapped Learner
Has a Low Self-concept
Has Poor Coordination
Walks Slowly
Has Problems Developing Interpersonal Relationships

disabled students are to gain access to and succeed in vocational programs. According to Section 504 of the Rehabilitation Act of 1973, adaptations must be made to facilities, instructional procedures, and materials for handicapped individuals as the need arises. Special funds are available to make public facilities accessible to the handicapped.

In many cases existing facilities are adequate with slight modifications. For example, one student may require a change in the way the classroom is arranged in order to maneuver a wheelchair around freely. Another student with braces may require that the workbench be raised so that he or she may stand while working. Still another student may require a nonskid floor surface for safe walking with crutches. Many physically disabled students require specific adaptive devices, such as wrist hold-downs for those with poor hand coordination and special pedals or hand controls for operating machinery.

Several sources of support are available to vocational teachers. Vocational rehabilitation departments can often provide these learners with the adaptive devices necessary for their success in vocational training programs. Physical therapists and occupational therapists work with physically handicapped individuals to strengthen their physical capacity to perform tasks. They can also offer recommendations concerning program modifications that would help these learners be more successful in developing their vocational potential.

Access to the School. Before programs can be made accessible to physically handicapped individuals, the building that houses the program must itself be made accessible. Therefore, the following modifications should be provided as necessary:

1. adequate parking spaces;
2. curbcuts to the sidewalks;
3. walkways with appropriate slope and width;
4. appropriate ramps leading to the building entrance;
5. guide-rails in the hallways;
6. ramps or elevators leading from one floor to

another;

7. doorways at least 32″ wide;
8. nonskid floor surfaces.

Accessibility in the Vocational Classroom/Laboratory. Before physically handicapped students can succeed in vocational programs, they must have access to the classroom and laboratory facilities. Therefore, the following modifications should be made, as necessary:

1. doorways at least 32″ wide;
2. aisle width sufficient for wheelchairs or individuals with crutches;
3. accessible work stations (i.e., enough room between stations for wheelchairs);
4. worktables at appropriate height (i.e., for wheelchairs or individuals on crutches who prefer to stand);
5. access to lockers and storage areas;
6. access to tool room;
7. access to controls for machinery and equipment (hand and foot controls may be necessary);
8. nonskid floor surfaces;
9. special guardplates for equipment, machinery, and power tools;
10. specially adapted tools for specific handicaps;
11. access to sinks, faucets, outlets, and emergency power switches.

Working with Physically Handicapped Learners in Vocational Programs

Variables to consider in planning for the physically disabled learner include:

1. degree of handicapping condition (mild or severe);
2. length of time the learner has had the handicapping condition (how adjusted is the learner);
3. stability of the condition
   a. constant (e.g., amputation) or intermittent (e.g., cerebral palsy)
   b. will the disability improve, remain stable, or deteriorate.

Individuals who become disabled usually go through a grieving process that involves five stages. This process is similar to the one experienced when someone close has died. The stage at which a person is in, in this process can definitely affect his or her attitude and ability to learn and relate to others. The five stages in this grieving process are described as follows:

1. *Stage One: Denial* - The individual usually tries to ignore the disability and is not very emotional. This is the body's way of anesthetizing itself against the condition.

2. *Stage Two: Anger* - The individual expresses rage at what has happened. Hostility if often directed at others. Self-pity often accompanies this stage (e.g., "What have I done that is so horrible that I am being punished this way?" "Why couldn't this have happened to someone else?").

3. *Stage Three: Bargaining* - The individual tries to convince himself or herself and others that if certain things are done the problem will disappear, and he or she will be the same as before (e.g., making promises, trying to "cut a deal"). This is usually the last attempt to ignore the condition before reality sinks in.

4. *Stage Four: Depression* - Individuals may become introverted and secluded. At this stage self-pity becomes dominant in the individual. Suicide attempts are sometimes considered.

5. *Stage Five: Acceptance* - The individual accepts the loss and its limitations. Plans are made to modify the lifestyle to achieve a new quality of life.

Individuals should be allowed to progress through this process at their own rate. They may race through all five stages, skip stages, revert back to stages, or linger in one stage. They need help and understanding in order to reach the acceptance level. Some general suggestions for vocational teachers who work with physically handicapped learners follow.

1. Seat learners where they will be most comfortable and have the greatest access to materials, equipment, lavatory facilities, and emergency exits.

2. Contact the special education teacher and/or the district nurse to learn of any medical considerations for these students. These include such information as prescribed medication, possible side effects of medication, stamina limitations, physical limitations, and emergency procedures. The teacher should remember to monitor the effects of medication. Feedback should be provided about classroom and laboratory behavior after medication has been taken by the learner.

3. Some learners may have to be released from class periodically to use lavatory facilities, administer insulin injections, take medication, or go to the clinic for a short rest.

4. It is helpful to release students who have wheelchairs, crutches, canes, or braces from class several minutes before the class ends so that they may get to their next class on time. A peer volunteer can help them travel from one class to another. This also fosters positive interpersonal relationships.

5. Peer volunteers can be selected to use carbon paper to take duplicate notes during class lectures or discussions.

6. If adaptations must be made in classroom and shop facilities or with equipment and machinery, ask

physically handicapped students who will be using them to help determine exactly what changes must be made. They can often suggest modifications that are inexpensive and easy to create.

7. Place materials and supplies to be used by these students on lower shelves in storage areas.

8. Use the demonstration technique whenever possible to provide concrete instructional examples.

9. Allow these learners longer periods of time to complete tasks, if necessary.

10. Allow learners to tape assignments and tests if they are unable to write.

11. Many physically handicapped learners have orthopedic appliances such as wheelchairs, canes, crutches, and braces. These appliances should be considered in adapting the program and facilities and/or instruction.

12. Overhead projectors produce larger images than writing on a chalkboard.

13. Special materials such as large print books, oversized pencils, pencil grips, clipboards, and easy-to-grasp tools with larger handles should be provided as necessary.

14. Adaptive aids such as lapboards for wheelchairs, wrist harnesses to hold pens, and bookholders attached to wheelchairs help these students adapt to the program.

15. Learners who are in wheelchairs frequently need to redistribute their weight because of poor circulation.

16. Provide tutoring by a peer tutor, teacher's aide, parent volunteer, or homebound instructor if the learner is behind because of frequent absences.

17. Nondisabled students in the class should be openly and accurately informed of their disabled peer's particular physical condition and advised how they can assist, if necessary. Honesty is best rather than trying to ignore or hide the condition.

18. Many conditions require the use of an orthopedic aid (e.g., wheelchair, brace, cane). The teacher should know how these aids are used and can even assist in their maintenance. The Center for Occupational Curriculum Development at The University of Texas at Austin has developed some materials that teach wheelchair inspection, maintenance, and repair. "A Stitch in Time" is part of the title of two sets of instructional materials that are designed to add to the independence and mobility of wheelchair users.

Part One, "Wheelchair Inspection and Maintenance," is a set of color slides with cassette tapes that can be used to teach the simplest and most routine tasks. It is useful for anyone who needs some information about maintenance.

Part Two, "Wheelchair Maintenance and Repair," has some simple maintenance hints but emphasizes more advanced and difficult repairs, such as those that would be done by repairpersons or other people with mechanical aptitude. It is based on the information in a student manual.

The contents of " A Stitch in Time: Wheelchair Maintenance and Repair" is shown below:

Chapters

1. Maintenance References
2. Fitting the Wheelchair
3. Tires and Tubes
4. Spokes and Rims
5. Bearings
6. Caster Wheels
7. Wheel Locks
8. Frame Pieces
9. Armrests
10. Footrests
11. Upholstery
12. Rust
13. Wheelchair Safety
14. Skin Maintenance

Appendix: Motorized Wheelchairs

Meet Francis, a Multi-handicapped Learner. . .

Francis is 25 years old and is enrolled in a carpentry program at a postsecondary school. Francis is partially sighted and is also deaf in one ear. He has suffered emotional problems because of his disabilities.

Some modifications have been made in program instuction by Mr. Sanders, the carpentry teacher. Francis has been fitted with special lenses on his glasses and sometimes uses magnifying devices when working on laboratory activities. Francis has also participated in communications classes offered at the county school for the deaf. He has learned to lipread through these classes. Mr. Sanders makes sure that he uses appropriate teaching techniques and large print materials to meet Francis' needs. Because of this, Francis is progressing very well in the program. His success has helped decrease the number of emotional problems that probably erupted as a result of earlier frustration and failure.

Francis works closely with his vocational rehabilitation services counselor. He has been assured that the vocational rehabilitation office will provide any adaptive devices or resources that he needs to succeed in the carpentry program. In addition, he will be given job placement assistance after he completes the program.

MULTI-HANDICAPPED LEARNERS

Multi-handicapped means concomitant impairments (such as mentally retarded-blind, mentally retarded-orthopedically impaired, etc.), the combination of which causes such severe educational problems that the individual cannot be accommodated in a special education program designed for only one of the impairments. The term does not include deaf-blind (individuals) (Public Law 94-142, 121, a.5).

Individuals who are classified as multi-handicapped have two or more handicapping conditions. Each of these conditions must be taken into consideration when planning programs. A thorough assessment of medical, psychological, and academic records must be made to establish realistic goals and identify appropriate support services.

Examples of learners with multiple handicaps include (a) mentally retarded-speech impaired students, (b) mentally retarded-deaf students, (c) mentally retarded-physically disabled students, (d) physically disabled-behavior disordered students, (e) deaf students who have speech impairments, (f) visually handicapped students who have cerebral palsy, (g) learning-disabled students who have speech impairments, and (h) emotionally disturbed-deaf students.

It is important for the vocational teacher and cooperative planning personnel to analyze each handicapping condition separately as well as in relationship to one another when making program decisions. For example, in the case of a physically handicapped student in a wheelchair who also has a visual handicap, it is not enough to only make the classroom and laboratory accessible for the wheelchair. Other adaptations and techniques also have to be provided for the visual handicap so that the learner can succeed in the vocational program.

Meet Dori, a Gifted Learner. . .

Dori is a senior at Woodlawn Comprehensive High School and is enrolled in the health occupations program. She has been in the program for two years and wants to continue her training after she graduates in the area of medical laboratory technology. Dori needs little external motivation to complete assigned work. She has advanced vocabulary for her age and grade level and is a keen and alert observer, usually seeing more and getting more out of the program than her peers.

Dori reads a great deal on her own. She does not avoid difficult material and has excellent mastery and recall of factual information. In addition, Dori is curious about many things and constantly asks questions. She generates numerous ideas and solutions to problems and questions posed in class and offers unusual, practical responses. She prefers to work independently and requires little direction from Mr. Keenan, the health occupations teacher.

Mr. Keenan finds it challenging to work with Dori in his vocational program. He has spent additional time locating reference material that she is using on an independent study project related to a unit that was just completed in class. She has volunteered to act as his laboratory assistant and makes an excellent peer tutor for others who need help with classwork or laboratory assignments. Dori is involved in the Enrichment Program sponsored by the district Board of Education. She spends five hours a week with other gifted learners under the direction of Ms. Lefevre, a teacher who has expertise in working with this population. Mr. Keenan has shared information about the health occupations program with Ms. Lefevre and Dori has elected to work on some accelerated projects related to her vocational program in the Enrichment Program.

GIFTED AND TALENTED LEARNERS

Gifted and *talented* means children and, where applicable, youth, who are identified at the preschool, elementary or secondary levels as (1) possessing demonstrated or potential performance capability in areas such as intellectual, creative, specific academic, or leadership ability or in the performing and visual arts; and (2) needing differentiated education or services (beyond those being provided by the regular school system to the average student) in order to realize these potentialities (Federal Register, May 6, 1976, p. 18666).

The term *gifted* generally refers to above-average performance in a multitude of areas while *talented* generally refers to above-average performance in a specific area, while other areas can be average or below average.

Abilities of Gifted and Talented Learners

The U.S. Office of Education has identified several areas within the gifted and talented. These areas are:

1. *General intellectual ability* - This is generally measured by a standardized intelligence test score. It indicates how well the learner adapts to the academic learning environment. Learners in this area generally have a high intelligence quotient (I.Q.) and the ability to perform well in most academic areas.

2. *Specific academic aptitude* - Learners in this area excel far beyond the peer group in one academic area but remain average in other areas. This indicates a talented individual but does not necessarily signify that the person can be considered gifted.

3. *Creative or productive thinking* - Learners in this area have the ability to synthesize and organize in-

formation in order to arrive at new solutions to problems and situations. These individuals are often called divergent thinkers. Creativity tests are generally used to measure this ability.

4. *Leadership ability* - Learners in this area have a natural tendency and ability to initiate group activities in academic and/or social environments. This role is generally accepted by others. This leadership ability can be developed both in vocational classroom and laboratory settings as well as in vocational student organization activities.

5. *Ability in visual and performing arts* - Learners in this category are outstanding in such areas as drama, music, photography, graphic arts, sculpture, and painting. Skill in one of these areas indicates a *talented* individual, whereas abilities in a number of these areas indicate *giftedness*.

6. *Psychomotor ability* - Learners in this area demonstrate strength and more coordination in large and/or small motor activities. Psychomotor abilities can involve excellent manual dexterity skills necessary for certain technological tasks.

Characteristics of Gifted and Talented Learners

Gifted and talented learners are not identified by the Education for All Handicapped Children Act (P.L. 94-142) as handicapped. However, the Council for Exceptional Children, a national organization for professionals in special education, has a division for personnel working with talented and gifted (TAG) learners. Many of these students are provided with an individualized education program (IEP) at the local level. The National Center for Research in Vocational Education has identified this population as a disadvantaged group when individuals within it exhibit academic or economic problems.

Some of the observations that characterize gifted and talented learners are listed below. These students often:

1. are extremely curious (verbally or nonverbally) about a variety of things;
2. learn readily and easily;
3. demonstrate creativity (e.g., the number of ideas an individual can create from a given stimulus);
4. demonstrate abstract reasoning at high levels by gathering together ideas and sensory input and synthesizing them quickly;
5. are highly observant and alert;
6. demonstrate a long attention span, often becoming totally absorbed in an activity;
7. convey ideas exceptionally well with a complex vocabulary as compared to the peer group (e.g., level of vocabulary, sentence length, sentence structure);
8. demonstrate keen powers of observation (e.g., exceptional memory, noting fine details, retention of material);
9. possess mastery of most academic subjects;
10. demonstrate excellent critical thinking and problem-solving skills;
11. demonstrate advanced understanding of cause-and-effect (abstract relationships);
12. apply knowledge easily to practical situations;
13. carry responsibility well and do what is promised, usually in an efficient and exemplary manner;
14. adapt to new situations, are flexible in thought and action, and do not seem disturbed when the normal routine is changed;
15. become absorbed and involved in certain topics or problems and are persistent in seeking task completion (it is sometimes difficult to get them to move on to another topic);
16. strive toward perfection (self-critical and not easily satisfied with their own speed or products);
17. are easily bored with routine tasks;
18. possess a large storehouse of information about a variety of topics (beyond the usual interests of peer group);
19. have insight into cause-and-effect relationships (try to discover the how's and why's of things, ask provocative questions, want to know what makes things or people "tick");
20. have a grasp on underlying principles and can make valid generalizations about events, people, or things.

Just as vocational teachers may have to allow some learners longer periods of time, they should also allow for individualized programming that is flexible enough to take students to the limits of their giftedness or talentedness. However, gifted learners often may be excelling in one area but may still be deficient in some other areas of basic skills. Each learner should be assessed carefully so that no assumption is made that the student is gifted in all areas.

Phelps (1978) suggests that a number of curriculum approaches can be used successfully with this population, including:

1. grouping gifted and talented learners by ability into special classes;
2. accelerating the gifted and talented through the regular program by use of an individualized instruction system;
3. enriching the regular vocational curriculum for gifted and talented students;
4. differentiating the vocational curriculum by adding content that is not typically included but which

enhances the learner's employability (p. 27).

Structure content so that two requirements are fulfilled: first, that the student learns the basic information and second, that the material will pose a stimulating problem for the student to solve. Work with learners and question their solutions to encourage a critical analysis if their responses. Remember to reinforce learners for creating a solution.

Sometimes problems arise in working with gifted and talented learners. Some of these anticipated problems are listed below with suggested solutions.

1. *Impatience* - Because of their above-average abilities, gifted and talented students will be eager to "get on with it" in terms of practical application. Some, therefore, will prefer to go over the theory very lightly. To make sure that both *theory* and *tasks* are mastered, encourage each learner to study the theory and demonstrate an appropriate knowledge before applying it.

2. *Student isolation* - Some students may feel set apart or singled out because of independent study and other appropriate methods designed to challenge them. There are at least two things that can be done to lessen this problem.
   a. Emphasize to learners that they are being given an opportunity to advance according to their ability.
   b. Encourage learners to attend demonstrations and work with other students when appropriate. Many of the peers will be able to help them with practice and performance tasks.

3. *Difficulty with practical* - Some of the students might be able to "breeze through" the theory but will experience trouble with the practical. The following is recommended if this happens.
   1. Encourage learners to work with some of their more proficient peers.
   2. Provide some additional resources such as films, tape/slide programs, video presentations of demonstrations, etc.
   3. Encourage learners to attend some of the group demonstrations.
   4. Encourage learners to observe some of the pertinent live work projects.
   5. Provide individual tutoring and coaching (Alabama State Department of Education, 1984).

Working with Gifted and Talented Learners in Vocational Programs

The following are techniques that can be used in working with gifted and talented students in vocational education programs.

1. Accelerate learners through the curriculum at a more rapid rate than others to keep them challenged (individualized instruction format).

2. Enrich the regular curriculum with greater depth of content and/or a wider range of experiences (emphasize more complex content) to challenge learners. Reis and Cellerino (1983) categorize enrichment activities into the following three types:
   1. *Type I Enrichment* - consists of experiences and activities that are designed to bring the learner into touch with the kinds of topics or areas of study in which he or she may develop a sincere interest. Through involvement in Type I general exploratory experiences, students will realize that they are expected to pursue further exploration about an area of interest and decide if they would like to do further research on the topic or problem they have selected.
   2. *Type II Enrichment* - consists of materials, methods, and instructional techniques that are concerned with the development of higher-level thinking and feeling processes. These processes include critical thinking, problem solving, reflective thinking, inquiry training, divergent thinking, awareness development, and creative or productive thinking. Type II activities are open-ended and allow students to escalate their thinking processes to the highest levels possible. Type II activities should also introduce students to more advanced kinds of studies.
   3. *Type III Enrichment* - consists of activities in which the student becomes an actual investigator of a real problem or topic by using appropriate methods of inquiry. The success of a Type III activity depends on the interest and task commitment of the individual student.

3. Set up seminars for small groups of students to meet regularly to study and discuss applications of vocational concepts/information taught in class.

4. Promote independent study of a related topic in a vocational program with an indepth report delivered to the class (the level of this assignment should be specifically designed to challenge the learner's level of functioning). The following sequential steps can serve as a guide for teachers working with gifted and talented learners as they attempt to effectively implement the independent study process in their programs.
   1. Assess student interest.
   2. Expose students to numerous interest areas.
   3. Conduct personal interview.
   4. Develop a written plan.
   5. Determine a direction and timeline.
   6. Locate multiple resources.

7. Brainstorm final product.
8. Provide necessary methodological assistance.
9. Evaluate study (Reis and Cellerino, 1983).

5. Offer summer enrichment programs to provide further depth and application of content introduced in a vocational program. Special projects can also be planned at this time.

6. Develop student-teacher contracts involving a project that applies the knowledge learned in the vocational program (e.g., related problems could be identified and solutions proposed). These contracts could be with an individual student or with a small group of learners.

7. Design individual and/or group research reports (library-based research efforts with oral reports given to the entire class).

8. Encourage participation in vocational student organization activities (e.g., assigned leadership responsibilities).

9. Promote articulation activities with postsecondary vocational programs (e.g., joint enrollment, exploration sessions, contracts to complete accelerated projects).

10. Allow for early completion of vocational program requirements so that learners can exit to further training and/or entry-level job placement.

11. Design and monitor school and/or community projects related to concepts learned in the vocational program where they would assume responsibility for planning, implementing, evaluating, and reporting results.

12. Recognize the exemplary efforts and products of learners (e.g., honors day, certificates, plaques, media coverage, newspaper clips).

13. Arrange for learners to spend time in a related job site to practice what they have learned.

14. Have available in your classroom and/or laboratory materials that are written on a wide range of areas applicable to the content in the vocational program.

Meet Dawn, a Disadvantaged Learner. . .

Dawn is 17 years old and enrolled in a building maintenance program. She is the seventh child in a family of ten. Her family is receiving support through public assistance; neither of her parents is employed. Dawn's school records show a series of failing grades, reading and math levels three grades below her peers, and a serious absentee and tardiness problem. In addition, the health records show that she has a history of health problems assumed to be the result of poor dietary habits and insufficient nutrition.

Dawn became interested in the building maintenance area during a career exploration activity in her freshman year. Mrs. Sheppard, the building maintenance teacher, has noted a marked improvement in Dawn's attendance and personal hygiene since she has been in the program. Dawn has showed much more motivation and initiative since Mrs. Sheppard placed her in a job situation through the cooperative education program several periods a day. The guidance counselor has also made arrangements for Mr. O'Connor, the school social worker, to work with the family and act as a liaison between the school and the home.

DISADVANTAGED LEARNERS

Disadvantaged learners, according to the Carl D. Perkins Vocational Education Act (P.L. 98-524), means individuals (other than handicapped individuals) who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals who are dropouts from, or who are identified as potential dropouts from, secondary school. Figure 2.9 shows an overview of general characteristics often associated with disadvantaged learners.

Individuals in this category often have problems displaying appropriate attitudes for participation in vocational programs. The background of the student is usually the greatest contributor to the problem. Some students may behave defiantly, rebel against authority, and be unable to establish realistic goals for their educational programs. They do not exercise accepted social behaviors in school-related situations and are often disruptive. Because most of these students' problems result from their background, the teacher must try to be sympathetic to their situation when trying to modify behavior.

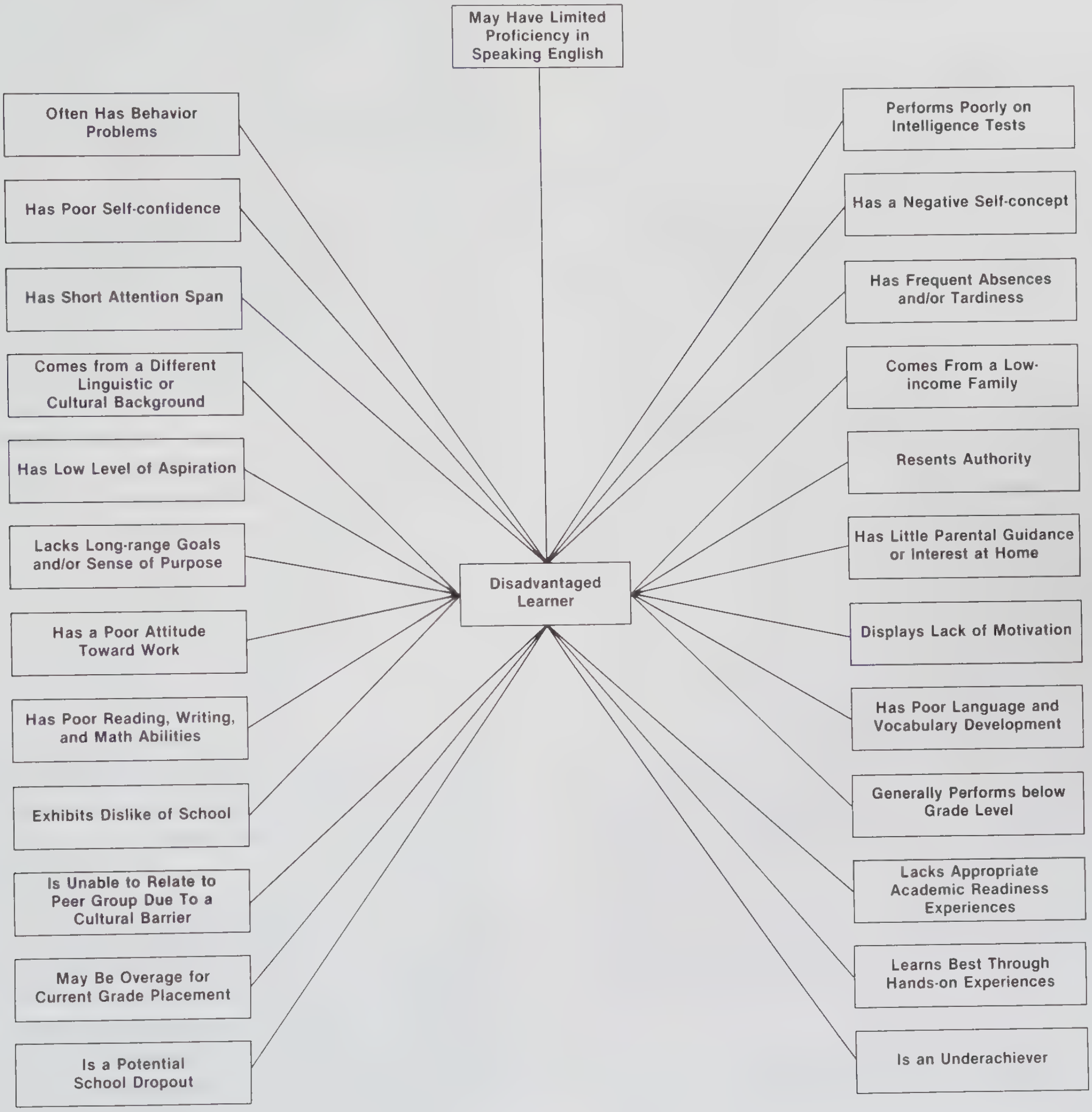
Others in this group may behave passively. They show no interest in school assignments and are often called *underachievers*. Their low self-esteem and lack of motivation make them prime candidates for dropping out of school. Some of the problems that disadvantaged learners have are:

1. poor foundation in basic skills (reading, math, communication skills);
2. low educational levels;
3. low aspirational levels;
4. high rate of absenteeism;
5. rebellious attitudes;
6. poor health and nutrition;
7. negative attitudes toward school, authority, and

Figure 2.9

OVERVIEW OF GENERAL CHARACTERISTICS OF DISADVANTAGED LEARNERS

Some of the general characteristics that disadvantaged learners *may* exhibit are shown in this figure. Remember that not every disadvantaged learner will display all of these characteristics.


May Have Limited Proficiency in Speaking English
Often Has Behavior Problems
Has Poor Self-confidence
Has Short Attention Span
Comes from a Different Linguistic or Cultural Background
Has Low Level of Aspiration
Lacks Long-range Goals and/or Sense of Purpose
Has a Poor Attitude Toward Work
Has Poor Reading, Writing, and Math Abilities
Exhibits Dislike of School
Is Unable to Relate to Peer Group Due To a Cultural Barrier
May Be Overage for Current Grade Placement
Is a Potential School Dropout
Disadvantaged Learner
Performs Poorly on Intelligence Tests
Has a Negative Self-concept
Has Frequent Absences and/or Tardiness
Comes From a Low-income Family
Resents Authority
Has Little Parental Guidance or Interest at Home
Displays Lack of Motivation
Has Poor Language and Vocabulary Development
Generally Performs below Grade Level
Lacks Appropriate Academic Readiness Experiences
Learns Best Through Hands-on Experiences
Is an Underachiever

the law;

8. lack of job-seeking and job-retention skills;

9. lack of exposure to career development information and related activities;

10. lack of worker role models;

11. no provisions for home study;

12. lack of encouragement from parents regarding educational progress or goals;

13. home environment that may be affected by hunger, unpaid debts, alcoholism, drug addiction, and/or overcrowded conditions (environment detrimental to self-growth and development);

14. low self-esteem;

15. language as a barrier to communication in school (low vocabulary and concept development);

16. lack of communication between teachers and parents;

17. lack of basic needs (food, safety, belongingness);

18. poor economic conditions; and

19. lack of access to transportation.

Some of the most frequently occurring problems vocational teachers encounter when working with disadvantaged students are:

1. excessive absence or poor attendance;
2. hygiene problems and poor personal appearance;
3. lack of supplies, materials, and/or equipment to complete assigned projects;
4. lack of basic preparation skills in reading and math;
5. lack of a value system that is conducive to preparation for a career;
6. lack of interest and motivation for education or work;
7. lack of background information regarding student's family, health records, and school records;
8. low self-esteem and/or lack of confidence.

Some services that disadvantaged individuals may need include:

1. career development activities;
2. vocational assessment;
3. curriculum and/or instructional modification;
4. placement in remedial class;
5. special supplies;
6. job-seeking and retention skills;
7. employment skills deveopment;
8. career counseling;
9. job placement assistance;
10. transportation;
11. financial aid; and
12. follow-up assistance.

Disadvantaged Target Groups

The guidelines used to identify disadvantaged individuals vary from state to state. This has led to some confusion when determining the appropriate services needed for this population. The groups of individuals included under this umbrella term are the academically disadvantaged, economically disadvantaged, limited-English-proficiency (LEP) individuals, criminal offenders, single parents, and displaced homemakers.

Academically Disadvantaged. An individual who scores below the 25th percentile on a standardized achievement or aptitude test, whose secondary school grades are below 2.0 on a 4.0 scale (where the grade "A" equals 4.0) or fails to attain minimal academic competencies (P.L. 98-524).

Individuals in this group have problems in their general academic achievement. They have low motivation to succeed in school. As a result, these learners frequently have low scores on achievement tests and poor attendance records. Many are potential dropouts.

Academically disadvantaged students may have poor backgrounds in mathematics. They have difficulty applying basic mathematical concepts to problem-solving situations or task-related activities in vocational programs. They also may have difficulty reading and writing. A lack of vocabulary development prevents them from reading or writing at the minimum level necessary for success in a vocational program. Often they read two or more years below grade level. They frequently have difficulty putting their thoughts into writing and following written directions to perform tasks.

This group of students often has language problems. Characteristics include poor speech patterns, limited use of English, trouble comprehending vocabulary and technical terms, difficulty in pronouncing words, problems constructing a proper sentence, poor spelling, and difficulty in carrying on a conversation with others. Because of the difficulty they have with verbal communication, they appear to have a limited ability to learn. Some of the characteristics of academically disadvantaged learners are:

1. history of failure in school, which may stem from apathy and lack of self-confidence;
2. slowness in performing academic tasks;
3. overage for grade placement;
4. poor educational background;
5. lack of successful school experiences;
6. low intelligence scores; and
7. lack of parental guidance or interest.

Economically Disadvantaged. *Economically disadvantaged individual* means an individual who comes from a family who the State Board identifies as low income on the basis of uniform methods, such as:

a. annual income at or below the official poverty line;

b. eligibility for free or reduced priced school lunch;

c. eligibility for AFDC or other public assistance programs;

d. receipt of a Pell grant or comparable state program of need-based financial assistance;

e. eligibility for participation in programs assisted under Title II of JTPA (P.L. 98-524).

A lack of money is usually the primary cause of the problems of these individuals. The lack of financial support at home can affect nutrition, hygiene, and medical and dental care. These individuals are frequently absent from school because they do not have enough money for clothes and transportation.

Many economically disadvantaged individuals come from areas identified by the Carl D. Perkins Vocational Education Act (P.L. 98-524) as economically depressed, defined as an economically integrated area within any state in which a chronically low level of economic activity or a deteriorating economic base has caused such adverse effects as—

1. A rate of unemployment which has exceeded by 50% or more the average rate of unemployment in the state, or in the nation, for each of the three years preceding the year for which such designation is made, or

2. A large concentration of low-income families, the designation of which is approved by the secretary as consistent with the purposes of the act, with these criteria and with such other criteria as the secretary may prescribe.

Some of the characteristics of economically disadvantaged individuals and their families are:

1. unemployment and/or irregular employment;
2. lack of entry-level employment skills;
3. lack of opportunities for employment training;
4. poor health and nutrition;
5. dependence on public assistance programs;
6. dependence on seasonal work;
7. lack of interest in steady employment;
8. little interest in or training for job advancement;
9. lack of educational encouragement;
10. poor personal hygiene habits;
11. tendency toward transient pattern;
12. low achievement expectancies;
13. history of broken families;
14. lack of authority figure(s) in home.

Limited-English-Proficiency (LEP). Limited-English-proficiency (LEP) individuals are those who:

1. were not born of the United States or whose native language is a language other than English;

2. come from environments where a language other than English is dominant; and

3. are American Indian and Alaskan native students and who come from environments where a language other than English has had a significant impact on their level of English language proficiency, and who by reason thereof, have sufficient difficulty speaking, reading, writing or understanding the English language to deny such individuals the opportunity to learn succesfully in classrooms where the language of instruction is English or to participate fully in our society (P.L. 98-524).

A position paper (Vocational Education Act LEP Position Paper, 1984) presented to assist policymakers in drafting legislation and policy affecting the delivery of vocational education and training for LEP persons stated that

> Limited English proficiency (LEP) persons comprise a significant and ever growing portion of our nation's population. With their language and cultural diversity and strong work ethic, the LEP represent a valuable human resource for this country's future productivity, economic competitiveness and defense. Unfortunately figures indicate that the LEP are grossly underrepresented in educational and vocational training programs because of the lack of equal access and appropriate support services. As a result, instead of contributing to their own and the nation's well-being, the LEP are being wasted on the unemployment lines and in penal and mental health institutions.
>
> If access and equality of educational opportunity are to be insured for this population, then special services must be provided to the LEP which address the barriers imposed by cultural and language differences. Since most vocational programs lack both the resources and the expertise to successfully train this population, federal and state agencies must assist local programs through technical assistance, staff development and funding.

One out of ten Americans (ages 5 and older) speaks a language other than English at home. This represents about 23 million people. Of these persons 4,291,800 (20%) identified themselves as not speaking English well or not at all. However, The Children's English and Services Study (1978) found that in testing children ages 5–17, an additional 59% of those previously identified as speaking English very well or well *tested* as limited in English proficiency. This would bring the total LEP figure for 1980 closer to 15 million for persons whose limited proficiency in English is insufficient to benefit from an all English instructional setting or to perform adequately on a job requiring English language skills (U.S. Census, 1980).

School attendance has often been a traumatic experience for students who do not use English at home. Many of them have been inappropriately placed in classes for the retarded or placed with students far below their chronological age. Often, they have been perceived and have come to perceive themselves as inferior because of their language and cultural backgrounds. There is reportedly a high occurrence of dropouts among ethnic minorities that has resulted in a serious educational problem. When English is not spoken in the home, students have an educational handicap because at school instruction is provided in English, and English is a foreign language to them.

States are beginning to make vocational education programs available to this rapidly growing population. By 1981–82, enrollments of limited-English speaking youth and adults had climbed to 171,154, a 97 percent increase over 1977–78 (Phelps, 1985).

For continued access of vocational education opportunities to LEP individuals some of the following services may be necessary:

1. outreach and recruitment;
2. prevocational experiences;
3. career education and guidance;
4. vocational assessment;
5. vocational related and job specific English as a second language;
6. bilingual or modified vocational instruction;
7. supplemental or remedial skills instruction;
8. bilingual counseling;
9. job development and follow-up.

The main responsibility for developing the English proficiency of LEP individuals should rest on the teacher in charge of English-as-a-Second Language (ESL). Crandall (1982) describes the role of the ESL as

> A number of changes in the teaching of ESL have enabled teachers to meet more adequately the needs of LEP adults. ESL classes are becoming increasingly specialized, providing only the most relevant vocabulary and structures that may be needed by a given adult learner. Instead of a "general" English class, like the foreign language classes that most Americans took when they were in high school, these ESL classes focus on the specific English needed by someone to function in a specific job or domain. Thus, ESL is increasingly becoming ESP (English for specific purposes) and the adult ESL class is likely to focus on vocation-specific English (called VESL), such as clerical ESL, food services ESL, welding ESL, or upholstery ESL. What these classes teach is a basic spoken command of English (emphasizing listening comprehension and understandable, though not accentless or flawless, spoken English) as well as sufficient reading and writing skills and vocabulary to enable the adult to read the necessary textbooks and manuals, signs and safety instructions, and to write instructions, order forms, and bills required for both vocational training in the field and for use on a specific job. At a minimum, the vocational ESL class enables the student with limited-English proficiency to do the following:
> * Ask for directions and follow commands
> * Talk about the tools and materials used in learning the vocation and in performing the skills
> * Discuss work with fellow employees, customers, and employers
> * Understand and be able to discuss some of the methods and procedures required by the vocation
> * Use technical manuals, textbooks, catalogs, and other reading materials to study for the vocation or to practice performing the skills
> * Explain processes while doing them or after completing them
> * Complete work orders, inventory lists, bills, time cards, and health, insurance, and tax forms
> * Understand and talk about safety and health and request emergency assistance
> * Respond to offers of assistance and be able to offer assistance in return
> * Seek clarification or repetition of previous statement or commands
> * Socialize appropriately with fellow workers and employers. (pp. 7–8)

Lopez–Valdez (1982) maintains that the main responsibility for developing the LEP student's English proficiency generally rests with an ESL teacher or tutor. However, there is much a vocational teacher can do to help the LEP student learn the vocabulary of the vocational field. Examples of this assistance include the following.

1. Teachers can label important classroom equipment, tools and work areas.
2. Teachers can provide students with key vocabulary prior to each class or lesson. Vocabulary can be introduced using bilingual lists/glossaries, flash cards or slides and cassettes. Key terms should include both technical words new to all students and basic or sub-technical language needed to understand new concepts or procedures. For example, in a lesson on the procedure for performing an E.K.G., the student will learn technical terms such as electrodes, graph paper, to take a recording, pads, etc. The student must also know non-technical words like secure vs. loose, straps, proper names of parts of the body, patient, machine, take, put, stimulate, etc.
3. Teachers can develop large posters with labeled illustrations or pictures. Catalogues and other promotional materials are excellent sources of visuals.
4. Teachers can work with a language instructor to develop coordinated lessons (p. 26).

General strategies that are successful in working with LEP individuals in vocational programs include the following.

1. Be aware of the student's cultural background and allow for individual differences.
2. Encourage students to bring dictionaries to class.
3. Use as many hands-on experiences and demonstrations as possible.
4. For the oral portion of instruction, speak slowly and use simple vocabulary and grammar.
5. Try not to simplify technical terms too much or learners will not learn them.
6. Use bright felt tip markers to mark important words, passages or illustrations.
7. Use a translator if possible to translate important concepts and to share with you any problems that students are having.
8. Work closely with the limited English-speaking support person.
9. Adjust the length of assignments. It may require two or more hours for a LEP learner to accomplish what a native English speaker can accomplish in half that time.

10. To check for comprehension, ask students what you have said. Refrain from asking them if they understand. Individuals from some cultures will say "yes" even if they don't understand.

11. Use simple sentences in writing test items so learners can concentrate on responding to questions rather than deciphering them.

Criminal Offender. A criminal offender is an individual who is charged with or convicted of any criminal offense, including a youth offender or a juvenile offender. These individuals will be associated with a correctional institution, identified as any of the following:

1. prison,
2. jail,
3. reformatory,
4. work farm,
5. detention center, or
6. halfway house, community-based rehabilitation center or any other similar institution designed for the confinement or rehabilitation of criminal offenders (P.L. 98-524).

The nation's correctional facilities continue to house 350,000 people. Of these, 95 percent will return to society, but 34 percent of the youth and 20 percent of the adults are functionally illiterate and 66 percent lack a high school diploma. Only 12.5 percent receive vocational education (Phelps, 1985).

Single Parents. A single parent is an individual who

1. is unmarried or legally separated from a spouse, and
2. has a minor child or children for which the parent has either custody or joint custody (P.L. 98-524).

Single parents have a variety of problems that may affect their participation and success in vocational programs. They may have economic problems due to limited income and lack of employment coupled with the responsibility of providing for a child. A lack of day care options limits their ability to attend classes and also care for children.

Services that a single parent may need to succeed in vocational education programs include:

1. orientation assistance;
2. career exploration;
3. information to increase self-esteem, stress management techniques, and family and work relationships related to client need;
4. tuition assistance;
5. basic literacy instruction—
    a. job readiness training including job application, resume writing, interview, search, etc.
    b. other activities in relation to vocational program (math, science);
6. assistance in organizing and scheduling child care—
    a. provide or arrange for accredited child care service to be provided at vocational training facility
    b. financial assistance to pay for outside day care
    c. orientation to time management techniques, nutrition, etc.

Over one million 15–19 year old girls become pregnant each year—one in every ten—and 600,000 of them give birth. Eighty percent of the adolescents who become mothers at 17 or earlier never complete high school (Phelps, 1985).

Displaced Homemaker. The term *homemaker* means an individual who

a. is an adult, and

b. has worked as an adult primarily without remuneration to care for the home and family, and for that reason has diminished marketable skills (P.L. 98-524).

An estimated 5–7 million displaced homemakers try to enter the job market each year, but only 67,000 were enrolled in vocational programs during 1980–81 (Phelps, 1985).

The displaced homemaker is not necessarily a fully enrolled student but is an individual who has been doing unpaid labor in the home, who is not gainfully employed, who has had, or would have, difficulty in securing employment, and who has been dependent on the income of another member of the family but is no longer supported by that income.

Target groups for displaced homemakers include:

1. persons who had been homemakers but who now, because of dissolution of marriage, must seek employment;
2. persons who are single heads of households and who lack adequate job skills;
3. persons who are currently homemakers and part-time workers but who wish to secure a full-time job;
4. women who are now in jobs that have been traditionally considered jobs for females and who wish to seek employment in job areas that have not been traditionally considered as job areas for females; and
5. men who are now in jobs that have been traditionally considered jobs for males and who wish to seek employment in job areas that have not been traditionally considered as job areas for males.

One of the problems in working with displaced homemakers is in providing them with access to vocational programs. Some suggestions for assisting these individuals in obtaining marketable skills through vocational education include providing:

1. basic skills classes, GED opportunities, and high school diploma classes;
2. guidance and counseling personnel who have an understanding of the needs of the displaced homemaker.
3. career and job information relevant to their needs and interests;
4. evaluation of aptitudes and existing skills that take into consideration a more mature age and different needs than adolescents or young adults;
5. community resource center open to the public;
6. access to day and night classes, flexible hours, flexible scheduling, and flexible entry into vocational and academic course work;
7. pre-entry information of the course work requirements and the time allocation required to complete a program;
8. work-study opportunities and/or on-the-job training;
9. a community support services referral list, including social services, day care, physical health care, mental health services, legal services, housing, and employment agencies; and
10. transportation assistance and/or day-care assistance through cooperative efforts with other agencies and organizations.

Working with Disadvantaged Students in Vocational Education

Some helpful techniques for working with disadvantaged students include the following.

1. Collect and analyze all available information relating to the individual.
2. Help the student establish short-term and long-range goals that are realistic.
3. Focus on learner abilities such as artistic, mechanical, or other natural abilities.
4. Challenge the learner's interests and abilities.
5. Do not label disadvantaged learners as low achievers because of their different learning style(s).
6. Identify the level of the learner and develop an open system of individualized instuction (documented in the individual prescribed program—IPP).
7. Involve students in the planning process.
8. Make goals clear to learners.
9. Modify teaching techniques to the style and rate of learning of each learner. Use practical experiences and explanations rather than abstract concepts.
10. Use concrete, tangible demonstrations rather than verbal and abstract.
11. Use illustrations, audiovisual aids, field trips, and direct experiences, whenever possible.
12. Keep learners aware of progress at all times and give them reason to believe that they are succeeding.
13. Orderly well-planned procedures should be used to help give learners security and stability. Use progress charts to document achievements.
14. Encourage learner expression whenever possible, such as during teacher-student planning and group activities.
15. Format instructional materials into shorter units of work.
16. Provide for frequent evaluation of learner progress to identify and provide necessary remedial assistance.
17. Avoid covering too much content too quickly.
18. Help to build learner self-concept and self-confidence by constant encouragement and reinforcement. Reinforce these students frequently to increase their motivation. Any feedback or praise that they receive will be helpful in encouraging them to continue or increase their performance level. It will also help to improve their self-concept.
19. Work as closely and as much as possible with other agencies and school resources.
20. Use a simple, direct vocabulary to keep communication channels open.
21. Avoid sarcastic or judgmental comments.
22. Recognize that the learner's vocabulary may be more limited and less precise than the peer group's.
23. Make directions simple, explicit, and precise.
24. Provide written assignment sheets or have learners copy assignments in notebooks to develop organizational skills.
25. Use hands-on activities whenever possible.
26. Provide reading materials with appropriate vocabulary levels (e.g., sentence structure and content suited to the student's reading level, interests, and experience). Utilize math and reading resource personnel.
27. Allow the learners to progress at their own pace.
28. Use constructive criticism.
29. Refrain from creating undue pressures.
30. Provide for closure at the end of lessons and units.
31. Present examples of successful workers from various cultural or minority groups to serve as examples and role models for these students. Invite workers in the community from various cultural or minority groups to come to the class and share their experiences with these students. Assign students to interview community leaders and workers from various cultural or minority groups.
32. Identify the reading and math levels for these students. Use this information in selecting or develop-

ing instructional materials.

33. Encourage students who are proficient in hands-on skills to become peer tutors for learners. This situation can serve as a motivating activity, as a way for disadvantaged students to increase their academic skills by reviewing related reading and math material, and as a reinforcer for positive peer relationships.

34. Field trip and shadowing experiences provide exposure to people who hold jobs associated with the program. Many of these students have no role model to follow in selecting or pursuing a career objective.

35. Whenever possible, encourage students to assume responsibility. These students generally learn to assume responsibility at an early age. Placing them in a position where they can demonstrate responsibility and leadership ability will allow them to actively participate in program activities rather than having to sit passively in the classroom and listen. Techniques that actively involve these learners are best suited to their needs.

36. Student-teacher contracts are an effective approach to allow students to proceed at their own pace while still assuming the responsibility for completing assignments within a specified time period.

37. Work with support staff to develop and implement appropriate behavior modification techniques for those students who display hostile or defiant behavior. Occupationally accepted behavior should always be stressed in working with them.

SUMMARY

Special needs learners are those students identified as handicapped or disadvantaged who have difficulty succeeding in regular vocational programs without the aid of support services, instructional materials and techniques, or supplementary aids and devices.

Handicapped students are categorized according to the nature of their handicapping condition. Recognized categories of handicapped learners include mentally handicapped, behavior-disordered or emotionally disturbed, learning-disabled, visually handicapped, hearing-impaired, speech-impaired, physically handicapped, health-impaired, and multi-handicapped individuals.

Disadvantaged students are classified as academically disadvantaged, economically disadvantaged, limited-English-proficiency, single parents, displaced homemakers, and corrections populations. In addition, gifted and talented learners have been identified as a target population that has special needs in vocational programs.

Vocational teachers need to become familiar with the general categories of special needs learners and their associated learning problems if they are to be successful in preparing these individuals adequately for the world of work. If vocational teachers better understand the learning problems of special needs learners they can modify their programs to provide appropriate vocational education opportunities.

SELF ASSESSMENT

1. Describe the following populations: (a) handicapped learners, (b) disadvantaged learners, and (c) special needs learners.

2. Why is it important to keep individual differences in mind when working with special needs learners?

3. Who are mentally handicapped learners? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program.

4. Who are learners with emotional or behavioral problems? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program. What would be the most effective way to handle an outburst by one of these students that is disrupting your class?

5. Who are visually handicapped learners? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program. What are some examples of special equipment, materials, and/or aids that can help these learners succeed in the program?

6. Who are hearing-impaired individuals? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program. What are some examples of special equipment, materials, and/or aids that can help these learners to succeed in the program?

7. Who are learning-disabled students? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program.

8. Who are speech-impaired learners? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program.

9. Who are health-impaired learners? What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program.

10. Who are physically handicapped learners? What are some general characteristics usually associated with

this group? Identify some techniques that you can use to help these learners succeed in your program. What are some examples of special equipment, materials, and/or aids that can help these learners to succeed in the program?

11. Who are gifted and talented learners? Identify some techniques that you can use to help these learners succeed in your program.

12. Who are multi-handicapped learners? What is the most important consideration to keep in mind in modifying programs for these individuals?

13. Who are disadvantaged learners? Identify the target groups and their characteristics. What are some general characteristics usually associated with this group? Identify some techniques that you can use to help these learners succeed in your program.

ASSOCIATED ACTIVITIES

1. Contact the special education personnel in your school to discuss the possibility of developing an in-service presentation for the other vocational teachers. The topic would be "Who Are Special Needs Learners?" Many simulation activities, guest speakers, and films could be used for this purpose.

2. Contact a special education teacher who works with handicapped high school students. Discuss the general characteristics of these students as well as appropriate techniques that can be used to meet their needs. Explain the nature of your program and discuss ways in which realistic vocational training opportunities can be developed for these students.

3. Contact a special education itinerant teacher who works with high school students who are hearing-impaired, visually handicapped, and/or physically disabled. You may find that one teacher travels from school to school within the district to serve all these students. Discuss the general characteristics of these students as well as appropriate techniques that can be used to meet their needs. Explain the nature of your program and discuss ways in which realistic vocational training opportunities can be developed for these students.

4. Contact the speech therapist who works with high school students who are speech-impaired. Discuss the general characteristics of these students as well as appropriate techniques that can be used to meet their needs. Explain the nature of your program and discuss ways in which realistic vocational training opportunities can be developed for these students.

5. Contact a counselor or social worker who works with high school students who are health-impaired. Discuss the general characteristics of these students as well as appropriate techniques that can be used to meet their needs. Explain the nature of your program and discuss ways in which realistic vocational training opportunities can be developed for these students.

6. Contact a teacher or counselor who works with disadvantaged high school students. Discuss the general characteristics of these students as well as appropriate techniques that can be used to meet their needs. Explain the nature of your program and discuss ways in which realistic vocational training opportunities can be developed for these students.

Architectural Accessibility Checklist

GETTING TO VOCATIONAL BUILDINGS AND ENTERING

A. Entrances to Vocational Grounds

1. Are entrances to parking areas for handicapped persons clearly marked?	Yes	No
2. Are entrances to vocational grounds adequately lighted?	Yes	No
3. Are there drive-up phone installation for use by disabled persons?	Yes	No

NOTES: ______

B. Passenger Unloading and Parking Areas

1. Are passenger unloading and parking areas for disabled persons close to the building entrance?	Yes	No
2. Are there sufficient parking spaces (at least two per building) for handicapped persons to use?	Yes	No
3. Are parking spaces at least 12′ wide?	Yes	No
4. Do parking spaces allow disabled persons to get in and out on a level surface?	Yes	No
5. Are parking areas positioned so handicapped persons do not need to move behind parked cars?	Yes	No
6. Is the pavement surface free of loose gravel, debris, and drain covers that wheelchairs and crutches may sink in?	Yes	No
7. Are parking areas adequately lighted?	Yes	No

NOTES: ______

C. Curb Cuts or Curb Ramps

1. Is there at least one curb cut with no more than 98.3% gradient per parking lot?	Yes	No
2. Do curb cuts have a non-slip surface such as a broom finish?	Yes	No
3. Are curb cuts located near designated handicapped parking spaces and where it is impossible for them to be blocked by cars or other obstructions?	Yes	No

NOTES: ______

D. Walks

1. Are walks at least 4′ wide?	Yes	No
2. Do walks have a slope no greater than 5% (1″ to 20′)?	Yes	No
3. Do walk surfaces blend to a common level at intersections?	Yes	No
4. Do walk surfaces have a non-slip surface?	Yes	No

NOTES: ______

E. Ramps

1. Do ramps have a slope no greater than 8.33%, or 1′ rise in 12′?	Yes	No
2. Do ramps have smooth handrails located 32″ high on both sides if they are not located along the wall?	Yes	No
3. Do handrails extend 1′ beyond the bottom and top of ramps?	Yes	No
4. Do ramps have a non-slip surface?	Yes	No
5. Do ramps have level platform 6′ long on 30″ intervals?	Yes	No
6. Do ramps end on the bottom with at least 6″ level platforms or walks?	Yes	No

NOTES: ______

F. Exterior Stairs or Steps

1. Do exterior steps have risers no greater than 7″ with non-slip treads at least 10″ deep?	Yes	No
2. Do stairs have handrails 32″ high as measured from the front of step treads?	Yes	No
3. Do handrails extend 18″ beyond the top and bottom of stairs unless they present an obstruction?	Yes	No
4. Are steps free of projecting treads?	Yes	No
5. Do stairs end on a level platform at the top that is at least 5′ by 5′ and that extends at least 1′ beyond each side of the doorway?	Yes	No

NOTES: ______

G. Exterior Doors and Doorways

1. Is there at least one 3′-wide door provided at the main entrance to each building?	Yes	No
2. Can doors be opened with no more than 8 pounds of pressure?	Yes	No
3. Is there at least 6′-6″ maximum separation between outer and inner doors?	Yes	No
4. Do doors have flush thresholds?	Yes	No
5. Do doors have lever-type handles mounted no higher than 42″?	Yes	No
6. Do doors have kick plates mounted at least 12″ high as measured from the bottom of the door?	Yes	No

NOTES: ______

MOVING ABOUT INSIDE BUILDINGS

A. Floors

1. Are floors at a common level or connected by a ramp? Yes No
2. Are changes in floor level marked by visual as well as tactile devices? Yes No

NOTES:

B. Corridors and Hallways

1. Are corridors and hallways at least 5′ wide? Yes No
2. Are travel routes for the handicapped clearly marked? Yes No
3. Are there protruding fixtures in corridors and hallways such as fire extinguishers, telephones, and drinking fountains? Yes No
4. Are classrooms, laboratories, and auxiliary areas clearly and appropriately marked? Yes No

NOTES:

C. Interior Stairs and Steps

1. Do interior steps have risers no greater than 7″ with non-slip treads at least 10″ deep? Yes No
2. Do stairs have handrails 32″ high as measured from the front of step treads? Yes No
3. Do handrails extend 18″ beyond the top and bottom of stairs unless they present an obstruction? Yes No
4. Are steps free of projecting treads? Yes No
5. Do stairs end on a level platform at the top that is at least 5′ by 5′ and that extends at least 1′ beyond each side of the doorway? Yes No

NOTES:

D. Ramps

1. Do ramps have a slope no greater than 8.33%, or 1′ rise in 12′? Yes No
2. Do ramps have smooth handrails located 32″ high on both sides if they are not located along the wall? Yes No
3. Do handrails extend 1′ beyond the bottom and top of ramps? Yes No
4. Do ramps have a non-slip surface? Yes No

NOTES:

E. Movement between Floor Levels

1. Are elevators provided in multi-story buildings? Yes No
2. Are wheelchair lifts provided for areas that have drops of 4′-6″ or less and where there is insufficient space for ramps? Yes No
3. Is the elevator cab at least 5′ by 5′? Yes No
4. Are elevator controls mounted between 2′-11″ and 4′-6″ off the floor? Yes No
5. Are elevator controls and signals clearly marked and do they employ both visual and auditory signals? Yes No
6. Do elevator cabs contain a rear-view mirror? Yes No

NOTES:

F. Movement Inside Classrooms and Laboratories

1. Are aisles and traffic lanes at least 3′ wide (preferably 4′)? Yes No
2. Are aisles and traffic lanes marked according to OSHA guidelines? Yes No
3. Are work stations and operator zones around machines and equipment clearly marked? Yes No

NOTES:

G. Restrooms

1. Is there at least one barrier-free toilet available for each sex in each vocational building? Yes No
2. Are toilet stalls at least 5′-6″ by 6′ in dimension? Yes No
3. Do toilet stalls have grab bars and swing-out doors? Yes No
4. Are there lavatories mounted high enough to provide 27½″ of knee clearance? Yes No
5. Do lavatories have controls mounted no more than 18″ from the front? Yes No
6. Are drain pipes and hot water pipes under lavatories insulated or covered? Yes No
7. Are there urinals for men that have basins mounted 19″ from the floor? Yes No
8. Are towel racks, towel dispensers, and disposal units available and mounted no higher than 40″ from the floor? Yes No

NOTES:

H. Drinking Fountains

1. Is there at least one barrier-free fountain available in each building or vocational wing? Yes No
2. Are fountains contained in a recessed area of the corridor? Yes No
3. Do fountains or water coolers have push-button type hand controls as well as foot controls? Yes No
4. Are coolers and fountains mounted so that spouts are no higher than 30″ off the floor? Yes No
5. Are fountains accessible to people in wheelchairs? Yes No

NOTES:

I. Telephones

1. Is there at least one barrier-free telephone available in each building? Yes No
2. Are telephones mounted no higher than 4′-4″ in a recessed area of a corridor? Yes No
3. Do accessible telephones have adjustable receiver-volume devices? Yes No
4. Do telephones have push-button controls? Yes No

NOTES:

J. Vending Machines

1. Are vending machines available that have push-button type controls? Yes No
2. Are the coin slots no higher than 4′-8″ off the floor? Yes No

NOTES:

K. Cafeterias

1. Do cafeterias have doors at least 34″ wide? Yes No
2. Do cafeterias have service lanes that are at least 36″ wide? Yes No
3. Do cafeterias have tray slides mounted 34″ off the floor? Yes No
4. Are cafeteria tables mounted at least 6′ apart? Yes No
5. Do cafeteria tables provide at least 27½″ of knee space as measured from the floor? Yes No

NOTES:

L. Work Stations and Study Areas

1. Are work stations and study areas at least 32″ wide? Yes No
2. Do study carrels provide knee space at least 22″ deep and 27½″ high? Yes No

NOTES:

M. Controls

1. Are controls and switches for such esentials as light, heat, ventilation, windows, draperies, and fire alarms mounted within reach of students in wheelchairs? (no higher than 5′) Yes No

NOTES:

N. Warning Devices

1. Do warning devices such as fire alarms and class change systems employ both visual and auditory signals Yes No

NOTES:

O. Identification (letters, numerals, and symbols)

1. Are raised or recessed letters, numerals, and symbols used to identify rooms and offices? Yes No
2. Are raised or recessed identifiers placed on wall next to the opening side of the door? Yes No
3. Are doorknobs to dangerous areas not designed for normal entry marked with knolls or other warning markings? Yes No
4. Are identifiers mounted between 4′-6″ and 5′-6″ off the floor? Yes No

NOTES:

P. Hazards

1. Are there low-hanging objects such as door closers, ceiling light fixtures, and low-hanging signs that protrude into corridors, doorways, and traffic lanes? Yes No
2. Are areas under construction barricaded to prevent entry? Yes No
3. Are emergency exit routes and procedures advertised? Yes No

NOTES:

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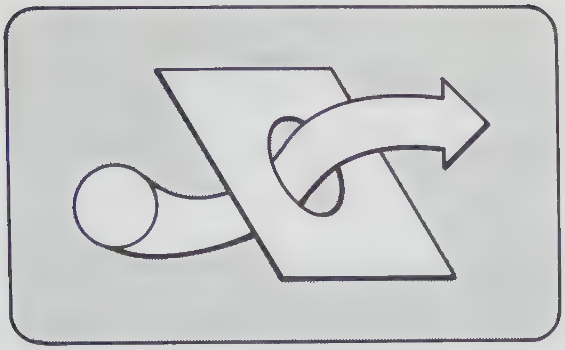


3

The Education for All Handicapped Children Act of 1975 guarantees that appropriate testing and placement procedures occur before an individual is labeled as handicapped. Specific procedures for the referral and assessment of handicapped students must be completed before they can be placed in a special education program. Likewise, a similar referral and assessment procedure should be followed in identifying disadvantaged students in order to provide them with support services needed to successfully complete their educational program.

One viable option for secondary level handicapped and disadvantaged students is enrollment in a vocational education program. Prior to their entrance in vocational programs it is important that special needs learners be provided with career development activities. The four phases of the career development process are career awareness, career orientation, career exploration, and career preparation. It is during this last phase that vocational education is utilized as a vehicle. There should be a variety of delivery options for special needs learners in vocational education to meet the abilities and needs of individual learners. Several appropriate placement options are regular vocational programs, adapted vocational programs, special vocational programs, individual training programs, and prevocational evaluation programs.

This module introduces the reader to appropriate referral and assessment procedures for special needs learners and provide information about career development, vocational education, and appropriate delivery options for these learners.

OUTLINE

The Right of Due Process
    Identification Procedure
        Initial Referral
        Parent/Guardian Notification
        Student Evaluation Process
        Committee Review of Evaluation Results
        Committee Placement Recommendation
        Parent/Guardian Options
        Appeal Process
The Referral Process for Disadvantaged Learners
    The Role of Vocational Teachers in the Referral Process
    The Effects of Labeling
Career Development for Special Needs Learners
    Phase 1: Career Development—Career Awareness (Primary Awareness)
    Phase 2: Career Orientation (Grades 7–8)
    Phase 3: Career Exploration (Junior High/Middle School)
    Phase 4: Career Education—Career Preparation (Secondary Level)
Introduction to Vocational Education: Goals, Program Areas, and Methods of Delivery
    Institutions That Offer Vocational Education
    Vocational Education Program Areas
    Vocational Education Curriculum

Vocational Education Placement Options for Special Needs Learners
Summary
Self Assessment
Associated Activities
Case Study
Related Activity
References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Describe the importance of the process.
2. Describe the referral and assessment procedures for handicapped students.
3. Describe the referral and assessment procedures for disadvantaged learners.
4. Describe the role and responsibilities of vocational teachers in the identification and assessment procedures for handicapped and disadvantaged students.
5. Explain the meaning of least restrictive alternative.
6. Describe the effects that labeling has on learners.
7. Describe the career development process, including the four phases and associated activities.
8. Define vocational education.
9. Describe how vocational education programs are delivered.
10. Identify the delivery options available to enroll handicapped students in vocational programs.

CONCEPTS

Adapted vocational education program - Participation in regular vocational education program with specific adaptations in the program curriculum, teaching techniques, and/or instructional materials.

Career education - The process of systematically coordinating all school, family and community components together to facilitate each individual's potential for economic, social and personal fulfillment. (Brolin, 1974)

Due process - The rights granted by Public Law 94-142 to guarantee that appropriate testing and placement procedures occur before an individual is labeled as handicapped.

Individual vocational training program - Participation in programs that are individually prescribed to meet the specific training needs of each learner in an attempt to develop appropriate prerequisite skills for a specific job.

Occupational Data Analysis System (ODAS) - A computer-based system that uses data from three existing data bases to assist business, education, and industry in developing relevant vocational programs.

Prevocational education - An orientation toward practical aspects of occupational training and job placement.

Prevocational evaluation program - Participation in activities that result in a comprehensive prevocational assessment and subsequent placement in appropriate employment or training situations.

Regular vocational education program - Full-time participation in regular vocational education program with slight modifications and/or resources.

Special vocational education program - Participation in a self-contained special classroom vocational program.

Vocational education - Organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment in such fields as agriculture, business occupations, marketing and distributive occupations, technical and emerging occupations, modern industrial and agricultural arts, and trade and industrial occupations, or for additional preparation for a career in such fields, and in other occupations requiring other than a baccalaureate or advanced degree and vocational student organization activities as an integral part of the program. (P.L. 98-524)

MODULE 3
REFERRAL, IDENTIFICATION, AND PLACEMENT OF SPECIAL NEEDS LEARNERS

One of the most important provisions of the Education for All Handicapped Children Act of 1975 (Public Law 94-142) is the requirement of due process rights for handicapped individuals. These rights are granted to guarantee that appropriate testing and placement procedures occur before an individual is labeled as handicapped. Specific procedures for the referral and assessment of handicapped students must be completed before they can be placed in a special education program.

When a learner has been identified as handicapped and placed in a special education class, an appropriate educational plan must be developed. The learner must be placed in regular classes with nonhandicapped peers as often as possible. This is referred to as placing the learner in the "least restrictive environment." Support services and aids necessary to help the learner achieve success in the regular educational program must be supplied by the school district. Vocational programs represent one area in which handicapped students can be educated in the least restrictive environment. A variety of placement options should be available to allow these learners to participate in vocational education.

THE RIGHT OF DUE PROCESS

The Education for All Handicapped Children Act of 1975 (Public Law 94-142) assures that every handicapped learner will be provided with a free, appropriate public education. To accomplish this objective, we must make sure that learners are properly placed in special education programs. No longer can a single test be used to label an individual as handicapped. No longer can culturally biased tests be used to label minority students as low functioning. No longer can learners be tested, evaluated and placed in special education programs without the involvement or consent of parents or guardians. Due process proceedings are now a right of individuals before labeling and placement in a special education environment can take place.

Identification Procedure

There has been extensive criticism over the effects of labeling individuals. Yet, proper classification of handicapped learners can be helpful in developing appropriate educational plans and providing necessary support services for them. Therefore, specific procedures for referring, evaluating, assessing and placing learners in special education programs must be carefully followed. When assessment and classification procedures are monitored correctly through due process procedures (rights to appropriate testing and placement procedures), individuals receive the specialized services needed to help them with their learning problems. Parents and guardians are also given an opportunity to communicate with school officials and to contribute to the placement decision.

Each state Board of Education has developed specific policies and procedures for referring, screening, assessing and placing handicapped individuals according to the mandates of Public Law 94-142. Similarly, each local education agency must follow the guidelines mandated by the state to evaluate and place handicapped individuals in special education programs. Most states follow the general process described below. Learners who are referred for evaluation will remain in the program or class where they are first identified until these steps have been completed and a final decision is made.

1. *Initial Referral* - A referral should be made to identify a learner, often in a regular education program, thought to have a learning problem resulting from a physical, mental, or emotional handicap. The objective of this initial referral is to diagnose and evaluate the needs of the student so that an appropriate educational program can be developed along with the necessary support services needed for success in school.

The referral can be made from a number of sources, including teachers, guidance counselors, administrators, judicial officers, social workers, parents/guardians, and physicians. No blame or cause is implied at this initial point. The person initiating the referral procedure should think carefully about this action by reviewing the events that led to the referral step.

The referring party should provide a written assessment of the individual's strengths and weaknesses. Specific observations made while the learner is involved in classroom or laboratory activities should be documented in writing for future reference.

Teachers should keep a few important points in mind when preparing to refer a learner. A daily description of the learner's behavior can be helpful. Observation should continue for a period of time beyond one or two days to make certain that the behavior is not a result of a temporary problem. The teacher should note how the individual's behavior differs from that of other learners in the class. This information should be described accurately so that biases can be avoided. A positive attitude on the part of the teacher toward the learner should be maintained, since the expectations of the teacher usually significantly influence the outcomes of strategies that are prescribed for the learner in the program.

In observing and recording learner behavior for referral and evaluation purposes, the following considerations should be addressed:

a. the severity of the behavior
b. the frequency of the behavior
c. the length of time that the behavior has been observed (e.g., one week, several months)
d. the setting(s) where the behavior occurs (e.g., classroom settings, laboratory settings, small group settings, large group settings, independent activities, social settings, a variety of settings)
e. how the behavior differs from the peer group and/or vocational program rules
f. how the behavior is interfering with the learning process.

2. *Parent/Guardian Notification* - Parents or guardians must be notified of the referral. The notification must be made in writing in the primary language spoken in the home. The notification should include the following information:

a. The reason for the referral.
b. An explanation of the evaluation process.
c. A statement of parent/guardian right of access to all school records concerning the child.

The letter should encourage the parent/guardian to contact the school if there are any questions about the contents. Written permission is requested in the letter to allow the school to evaluate the student to determine his/her unique needs. The parent/guardian has the right to attend the evaluation session. The letter also ensures that the parent/guardian will be informed of the results of the evaluation process within a specific period of time. All signed parent/guardian permission forms must be kept on file.

3. *Student Evaluation Process* - A comprehensive diagnostic evaluation is completed by a team of specialists. The general assessment areas for the student evaluation include:

a. Educational information - initial referral forms, observation reports, intelligence tests, review of school records, aptitude scores, teacher reports, and review of speech, language, and motor development.
b. Social history - information about the family background of the student as well as the current home environment. This information is usually provided by the school social worker or a social agency.
c. Medical information - a comprehensive physical examination, vision test, hearing test, review of past medical records, and review of effects of any prescribed medication.

A decision about placing an individual in a special education program must be based on the results of several tests rather than on a single test. In this way, a thorough assessment is assured rather than a quick decision based on a single score. When assessment procedures and specific instruments are selected, necessary adjustments must be made for students who have different cultural or linguistic backgrounds. Testing situations, by law, cannot discriminate against such students because of these differences. For example, a psychological examination must be administered in the language spoken by individuals if they are not proficient in English.

Evaluation results must be current. Even after learners are placed in special education programs, they must be reevaluated periodically to assure that the current placement meets their needs.

4. *Committee Review of Evaluation Results* - A committee composed of professional personnel reviews the results of the student evaluation process. This team may include, among others, a(n): (a) administrator, (b) guidance counselor, (c) special education teacher, (d) social worker, (e) psychologist, (f) psychiatrist, (g) vocational evaluator, (h) nurse, (i) speech therapist, (j) audiologist, (k) person registering the initial referral, (l) parent/guardian and (m) any other personnel

who can contribute to the committee review and placement recommendation.

It is the responsibility of this committee to carefully review the results of all tests, reports, school records, medical history, social background, and referral information. Minimal data that should be available for this review include:

- a. vision screening test results
- b. hearing screening test results
- c. health records
- d. speech test results
- e. anecdotal observation information
- f. academic functioning levels (e.g., grades, results of standardized academic testing)
- g. psychological test results
- h. teacher comments and recommendations

The parent/guardian should be notified of the date and time of the screening conference and should be encouraged to participate. They can provide valuable insight into the screening.

5. *Committee Placement Recommendation* - Once the committee has reviewed the information from the comprehensive evaluation, a placement recommendation is made. The parent/guardian must be notified of the placement recommendation made by the committee. This notification must be made in writing and must describe the program or service that is being recommended. They must be informed of their right to review all records concerning their son/daughter. They have the right to challenge any of this information.

The parent/guardian must also be given an opportunity to present additional information that could affect a placement decision. Agencies in the community can often provide an independent evaluation for review by the committee. Finally, the parent/guardian must be informed of appeal procedures to which they can refer if they are dissatisfied with the committee recommendation.

6. *Parent/Guardian Options* - The parent/guardian may agree to the placement recommendation made by the committee. Once written permission is obtained, the student is placed in the recommended special education program and an individualized education program (IEP) is written within thirty days.

The parent/guardian may wish to have an independent evaluation conducted, if this has not already taken place. In this case, the committee will meet again to review the results and discuss an appropriate placement recommendation. At this time, the parent/guardian may either accept or refuse the recommendation.

The parent/guardian may refuse to accept the placement recommendation, with or without an independent evaluation. An appeal can be made regarding the placement recommendation.

7. *Appeal Process* - If the parent/guardian appeals the placement recommendation, another review is made by a different committee or ultimately by a court. The placement decision arrived at through the appeal process is binding.

A learner placed in a special education program as a result of the process outlined above must be evaluated periodically to determine whether the current placement and accompanying services are meeting his/her needs. Figure 3.1 shows the general process for referring, assessing, and placing learners in a special education program.

THE REFERRAL PROCESS FOR DISADVANTAGED LEARNERS

Learners enrolled in vocational programs who are thought to be disadvantaged should be referred by the teacher. Wircenski (1981) suggests that teachers carefully review students enrolled to determine those who:

1. are overage for grade by at least two years
2. have difficulty communicating in writing or speaking
3. are frequently absent from class with or without apparent cause
4. have a reading level at least two grade levels below grade placement
5. have a mathematical level at least two grade levels below grade placement
6. exhibit hostile or apathetic behavior
7. need economic assistance to continue in school
8. are frequently tardy
9. are very disorganized and have poor work-study skills
10. have a record of subject or course failure over repeated grade periods.

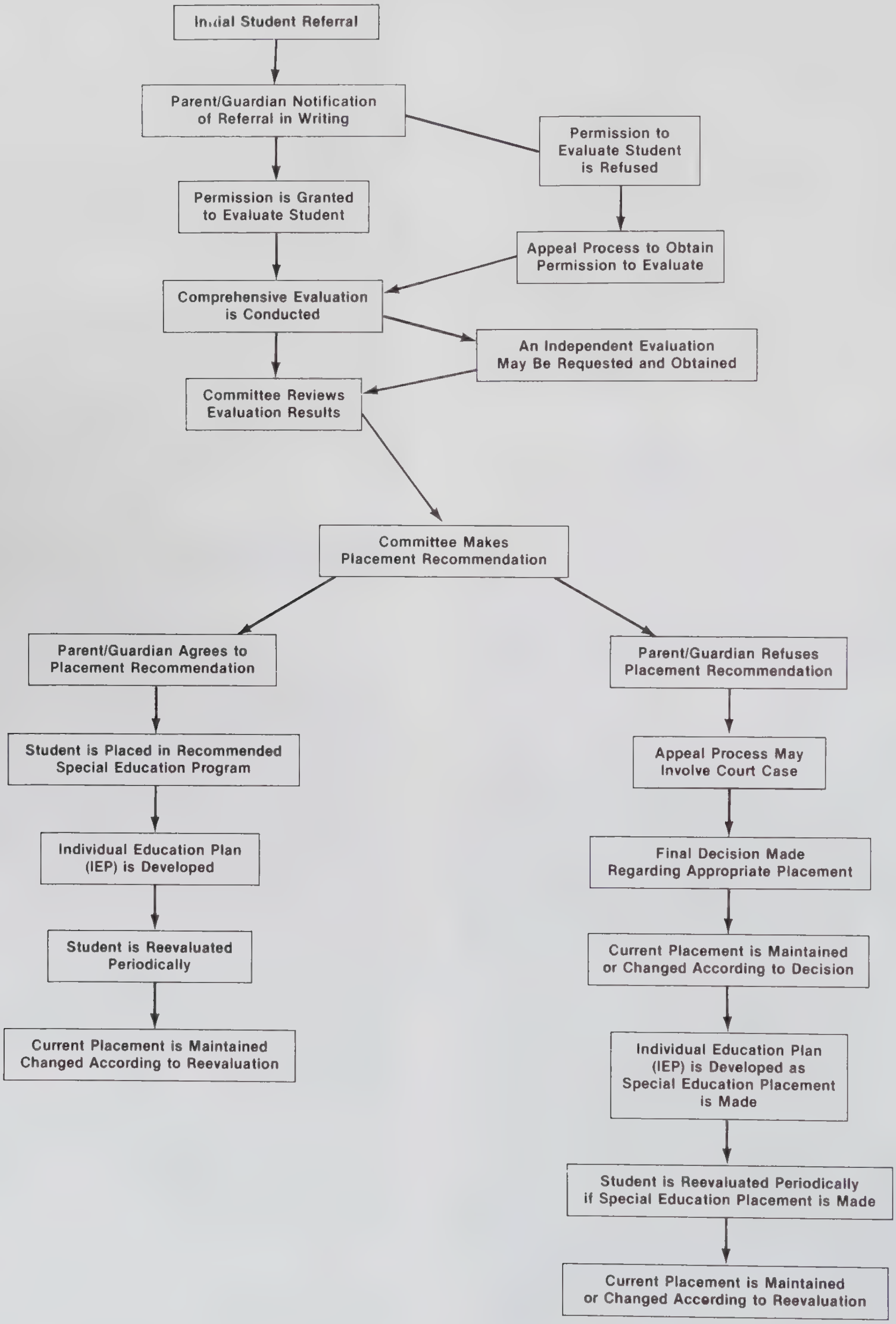
The specific referral form completed by the vocational instructor should include the following information:

1. background information (e.g., name, address, age, sex, birthdate, grade placement, program placement, parent/guardian names)
2. referring person(s)
3. date of referral
4. reason for referral (description of learner behavior, learner limitations)
5. learner strengths
6. recommendations for necessary services/program modifications.

Figure 3.1

REFERRAL AND PLACEMENT PROCESS FOR HANDICAPPED LEARNERS: GENERAL PROCEDURE

Objective: To (a) identify students who have learning problems, (b) diagnose and evaluate their special needs and (c) develop an appropriate special education program for them.


Initial Student Referral
Parent/Guardian Notification of Referral in Writing
Permission to Evaluate Student is Refused
Permission is Granted to Evaluate Student
Appeal Process to Obtain Permission to Evaluate
Comprehensive Evaluation is Conducted
An Independent Evaluation May Be Requested and Obtained
Committee Reviews Evaluation Results
Committee Makes Placement Recommendation
Parent/Guardian Agrees to Placement Recommendation
Parent/Guardian Refuses Placement Recommendation
Student is Placed in Recommended Special Education Program
Appeal Process May Involve Court Case
Individual Education Plan (IEP) is Developed
Final Decision Made Regarding Appropriate Placement
Student is Reevaluated Periodically
Current Placement is Maintained or Changed According to Decision
Current Placement is Maintained Changed According to Reevaluation
Individual Education Plan (IEP) is Developed as Special Education Placement is Made
Student is Reevaluated Periodically if Special Education Placement is Made
Current Placement is Maintained or Changed According to Reevaluation

Specific data should be reviewed before a determination is made about necessary modifications or services that should be provided for the disadvantaged learner in order for successful completion of the vocational program to occur. This data includes the following:

1. anecdotal records
2. school records
3. social worker report
4. comments and recommendations from counselors, administrators and teachers
5. medical and health records
6. student conference
7. results of diagnostic and psychological tests
8. language assessment information (e.g., language spoken in home)
9. information from parent/guardian
10. employment history and goals
11. current and past services provided
12. current instructional grade at which learner is functioning.

The Role of Vocational Teachers in the Referral Process

If a vocational teacher notices that a student enrolled in a program seems to be having difficulty, the learner should be carefully oberved. The teacher should note the specific behaviors of the student. The general characteristics found in Module 2 may help to identify a student in need of referral and evaluation. Details of the student's behavior should be documented in writing to provide important information during the evaluation process.

The first step in the identification and placement process is an initial referral. The vocational teacher who feels that a student is in need of evaluation should contact the person in the school who handles the initial referral forms. This could be an administrator a guidance counselor, a special education teacher, a disadvantaged specialist or another professional in charge of this step in the referral process. Figure 3.2 shows a sample of an initial referral form which contains useful information for the referral and evaluation process.

The vocational teacher should complete the initial referral form, providing specific details about the behavior of the student. Once this referral has been made, the parent/guardian is notified in writing of the referral. The letter asks the parent/guardian for permission to evaluate the student.

When permission to evaluate the student has been obtained, the review committee collects relevant information, test data, and records that will be used to determine the placement recommendation. After the comprehensive evaluation process is completed, the committee reviews all the information relative to the learner. The vocational teacher, as the person who submits the initial referral, usually contributes to the review committee by discussing the reason for the referral as well as the specific learning problems and behavioral characteristics that the learner has displayed in class.

When final placement decisions and/or appropriate services and program modification have been agreed upon by all parties, the vocational teacher will retain the student in the vocational program if it is determined that he/she can succeed wih the aid of support help. An individualized education program (IEP) or individualized prescriptive program (IPP) will then be developed to identify strategies and services that can be cooperatively utilized by vocational education and support personnel to assist the special needs learner.

The Effects of Labeling

Precise referral and assessment procedures must be established and followed carefully if students with special needs are to be provided with appropriate assistance and support services. Appropriate identification and assessment procedures can be used to avoid hasty, false labeling of students.

For example, in the past, many students from minority and low-income families were labeled as mentally handicapped or behavior disordered because they did not perform well on standardized I.Q. tests. The effect of the home environment in these cases was not taken into consideration before a label was assigned. The educational needs of these learners were not correctly identified. In other cases, students from minority or low-income backgrounds were labeled as disadvantaged even if they were having no difficulties in school.

The due process requirements established by law for handicapped learners mandate that specific referral, assessment and review procedures must be followed before a student can be assigned to a special education program. These regulations guarantee that the specific needs of the individual will be met through appropriate special education services. Likewise, specific referral and identification procedures must be designed and followed in order to appropriately identify disadvantaged students in vocational programs and provide them with the services they need to successfully participate in program activities.

Labeling is a practice that has often resulted in negative effects for both students and teachers. By emphasizing the differences between special needs learners

Figure 3.2

SAMPLE OF INITIAL REFERRAL FORM FOR SPECIAL NEEDS LEARNERS

Date of Referral____________________

Referring Party____________________

Student Name____

Date of Birth____________________ Age__________ Sex______________

Address____

Background Information

1. Mother's Name____

   Home Address____________________ Telephone______________

   Employment Address____________________ Telephone______________

2. Father's Name____

   Home Address____________________ Telephone______________

   Employment Address____________________ Telephone______________

3. Number of Siblings____

4. Language spoken in home (dominant language)____________________

Specific Information Review

1. Current achievement (grade levels):____________________

2. Diagnostic test results:

   Test______________ Date____________________ Results______________

3. Psychological exam results:

   Test______________ Date____________________ Results______________

4. Medical and health information:

5. Employment history:

6. Social worker report:

7. Student interview results (including identified career goal):

and other learners, labels tend to obscure the fact that these individuals are more like their peers than they are unlike them. They have strengths and weaknesses, likes and dislikes, desires and fears similar to all learners. The majority of this population lacks career development, prevocational education, and vocational background exposure because they have not been provided with appropriate opportunities.

CAREER DEVELOPMENT FOR SPECIAL NEEDS LEARNERS

Career development is crucial for special needs individuals. Many of these learners leave school deficient in the basic academic skills required for independence in society. They often fail to see the connection between what they are being asked to learn in school and what they will do when they leave. Waiting until high school to show this relationship may result in failure. One of the most critical gaps in the background of many special needs learners placed in vocational education programs is the lack of career education or career development activities. These two concepts are treated as one and the same in this module.

Brolin (1974) defines career education as the process of systematically coordinating all school, family, and community components together to facilitate each individual's potential for economic, social, and personal fulfillment. Career development is:

a. for all persons K–adult
b. a process that focuses on learning experiences related to self understanding, educational endeavors, and career potential
c. a process that provides experiences related to a sample of jobs at all levels of the occupational spectrum
d. a way for students to find satisfying worthwhile work
e. a way to motivate students.

Many people confuse career development with vocational education. It is important to point out the distinction between these two concepts. Some important differences are presented below:

Career Development	Vocational Education
1. Awareness, exploration, decision making, preparation, entry, and advancement stages	1. Preparation stage only
2. For all people	2. For people seeking vocational-technical education
3. Emphasizes paid and unpaid work	3. Emphasizes paid employment

Figure 3.3a shows the elements of the career development process. Note where vocational education fits into the process.

Generally, a school-based career development model is designed as shown in Figure 3.3b. Each of these phases is described below.

Phase 1: Career Development—Career Awareness (Primary Level)

Objectives to:

1. develop basic skills
2. develop learner recognition of the personal and social significance of work
3. help each learner to become aware of himself/herself as an individual and as a group member
4. develop learner awareness of many occupations and to expand career interests
5. improve overall learner performance by unifying and focusing basic subjects around a career development theme.

Tasks that should be accomplished with learners include:

1. developing an awareness of self
2. acquiring a sense of control over one's life
3. identification with workers
4. acquiring knowledge about workers
5. acquiring interpersonal skills
6. ability to present oneself objectively
7. acquiring respect for other people and the work they do.

This is the stage where learners should begin to learn about themselves. They should begin to learn about their likes, dislikes, limitations, abilities, and needs. Occupational vocabulary should be introduced during this phase. For example, specific occupations (e.g., firefighter, librarian, doctor, teacher, pilot), occupational roles (e.g., boss, worker, principal) and occupational instructions (e.g., call, open, turn, stop, clean, build) can be introduced.

Phase 2: Career Orientation (Grades 7–8)

Objectives to:

1. provide a greater exposure to all levels of occupations
2. provide real life experiences through field trips to business and industry and guest speakers
3. further develop basic skills.

Figure 3.3a

ELEMENTS OF THE CAREER DEVELOPMENT PROCESS

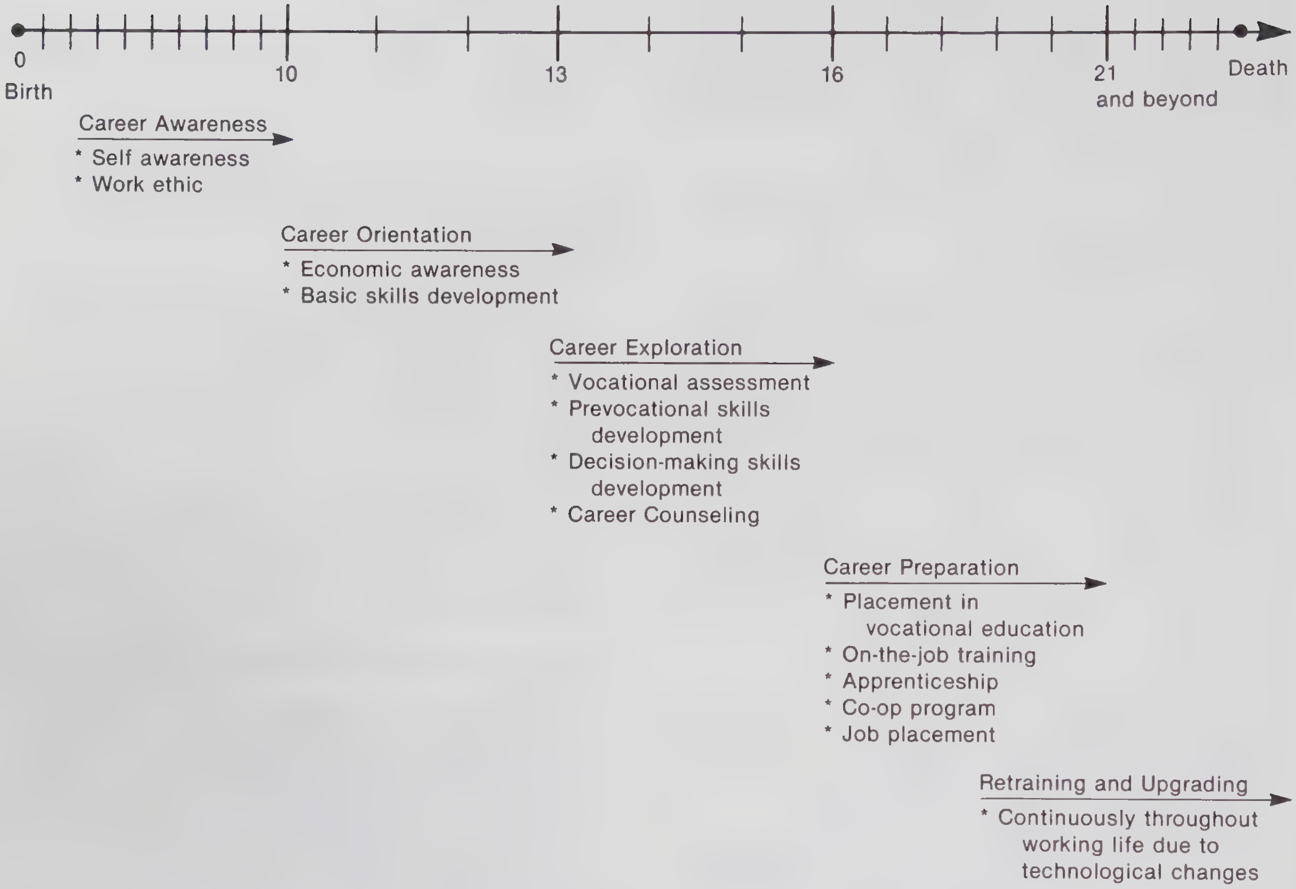

0
Birth
10
13
16
21
and beyond
Death
Career Awareness
* Self awareness
* Work ethic
Career Orientation
* Economic awareness
* Basic skills development
Career Exploration
* Vocational assessment
* Prevocational skills development
* Decision-making skills development
* Career Counseling
Career Preparation
* Placement in vocational education
* On-the-job training
* Apprenticeship
* Co-op program
* Job placement
Retraining and Upgrading
* Continuously throughout working life due to technological changes

Figure 3.3b

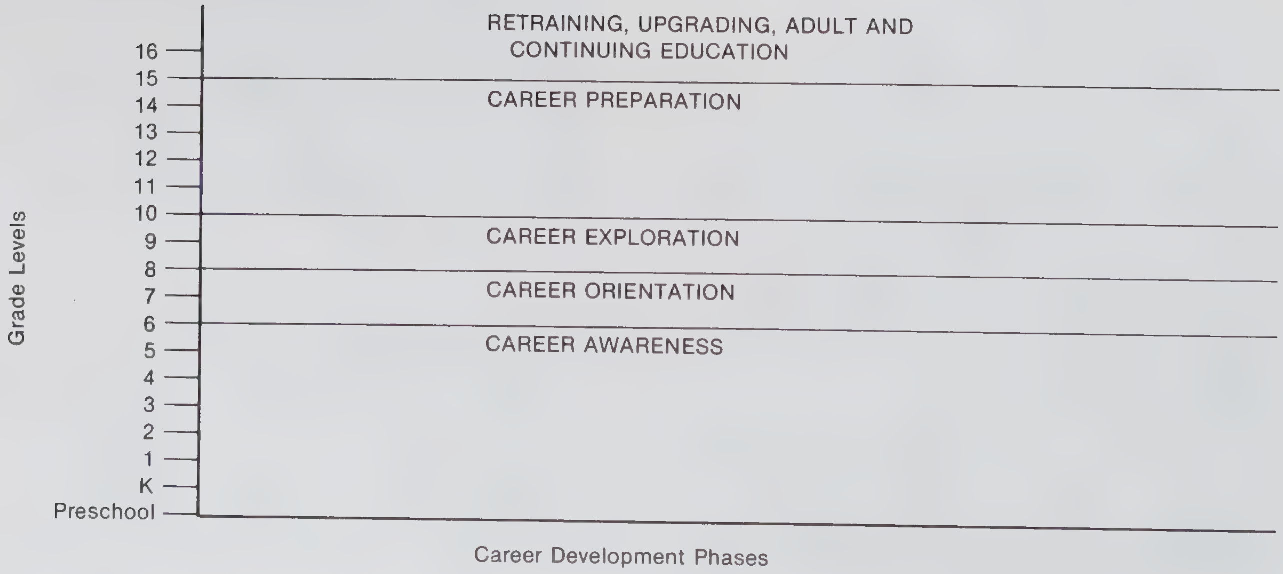

RETRAINING, UPGRADING, ADULT AND CONTINUING EDUCATION
CAREER PREPARATION
CAREER EXPLORATION
CAREER ORIENTATION
CAREER AWARENESS
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
K
Preschool
Grade Levels
Career Development Phases

Figure 3.4 provides some examples of career orientation information.

If a learner expresses an interest in working in foods, for example, the following employment opportunities can be presented for consideration:

1. Helper in lunchroom
2. Bakery helper or sales clerk
3. Restaurant host/hostess
4. Helper in a foods testing laboratory
5. Food service helper
6. Household assistant and cook
7. Food store helper (wrapper, salesperson, checker)
8. Making specialty items in the home (cakes, cookies, candy, tea, and sandwiches).

Tasks that should be accomplished with learners include:

1. developing a positive self concept
2. acquiring the discipline of work
3. identifying the concept of work as a valued institution
4. increasing knowledge about workers
5. increasing interpersonal skills
6. increasing ability to present oneself objectively.

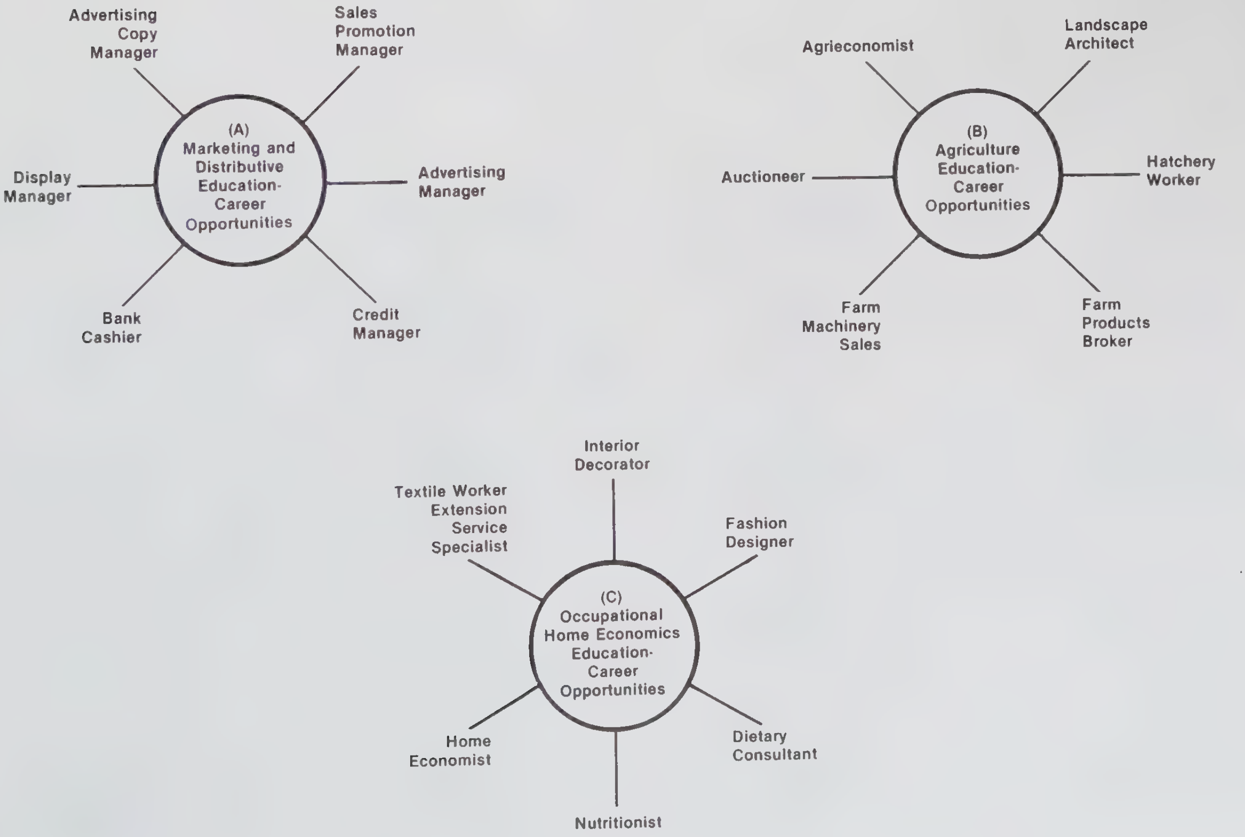
Phase 3: Career Exploration (Junior High/Middle School)

Objectives to:

1. provide opportunities to explore the world of work with simulated and hands-on experiences
2. provide activities involving materials, tools, processes, and personal relationships consistent with career opportunities
3. assist individuals in establishing more realistic career goals to pursue in the career preparation phase
4. provide experiences that provide exploration of work values and personal values in relationship to specific jobs.

Figure 3.4

CAREER ORIENTATION EXAMPLES



Advertising Copy Manager
Sales Promotion Manager
Display Manager
(A) Marketing and Distributive Education-Career Opportunities
Advertising Manager
Bank Cashier
Credit Manager
Agrieconomist
Landscape Architect
Auctioneer
(B) Agriculture Education-Career Opportunities
Hatchery Worker
Farm Machinery Sales
Farm Products Broker
Interior Decorator
Textile Worker Extension Service Specialist
Fashion Designer
(C) Occupational Home Economics Education-Career Opportunities
Home Economist
Dietary Consultant
Nutritionist

Tasks that should be accomplished with learners include:

1. clarifying self concept
2. assuming responsibility for career planning
3. formulating tentative career goals
4. acquiring knowledge of occupations, work settings and lifestyles
5. acquiring knowledge of educational and vocational resources
6. developing an awareness of the decision-making process
7. acquiring a sense of independence.

Learners can better conceptualize a given career if they can experience a representative activity. Behaviors usually associated with vocational exploration include searching, experimenting, and investigating.

A variety of exploration programs that can be designed and/or adapted for special needs learners include:

1. rotation programs where learners explore a variety of vocational classes, each for a brief period of time. (Figure 3.5 provides an example of a student making exploratory choices from a number of program options.)
2. in-school work-experience programs (main office, building maintenance, library/media center, horticulture/grounds maintenance, cafeteria)
3. opportunities to observe and learn about a variety of occupations and work sites through field trips, resource speakers, shadowing, videotapes, and slides of workers
4. simulations and projects conducted in class.

It is helpful to document information obtained during these exploratory experiences. Figure 3.6 provides an example of a Career Exploration Guidesheet, which can then be used for career counseling and planning for placement in a specific vocational program during the career preparation phase.

Figure 3.5

CAREER EXPLORATION—ROTATION

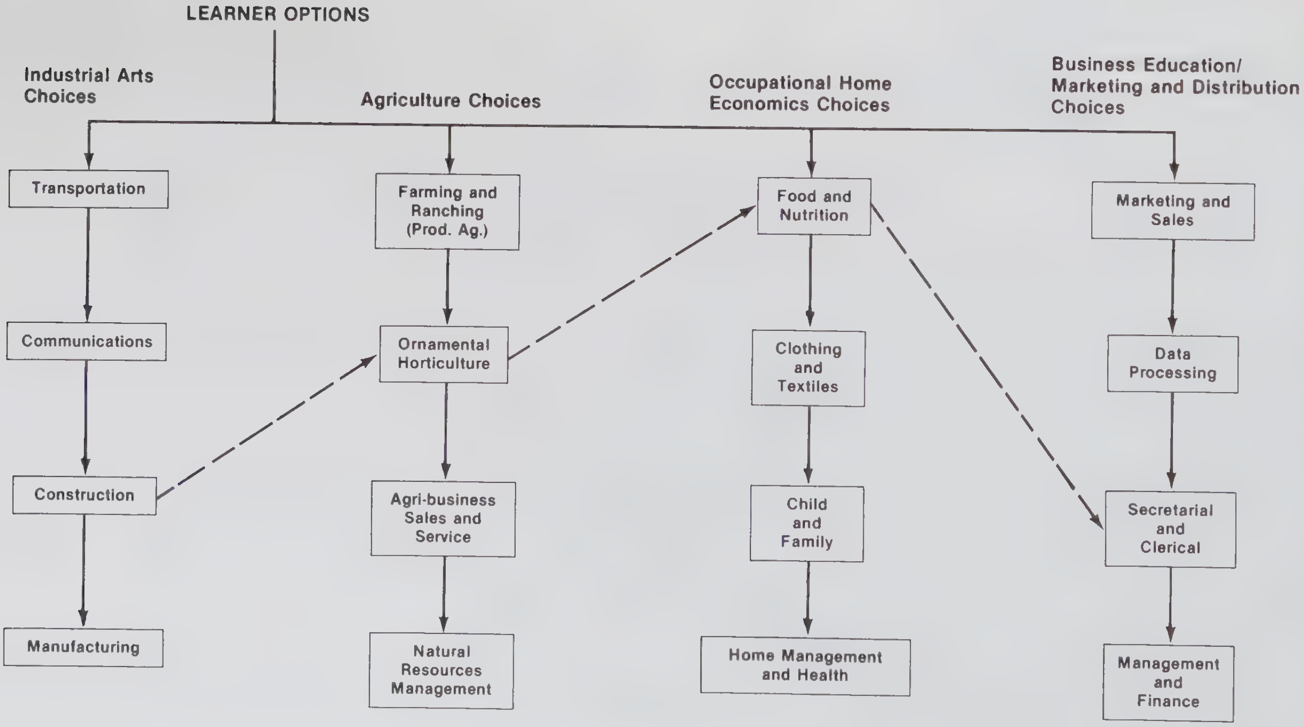

LEARNER OPTIONS
Industrial Arts Choices
Agriculture Choices
Occupational Home Economics Choices
Business Education/ Marketing and Distribution Choices
Transportation
Communications
Construction
Manufacturing
Farming and Ranching (Prod. Ag.)
Ornamental Horticulture
Agri-business Sales and Service
Natural Resources Management
Food and Nutrition
Clothing and Textiles
Child and Family
Home Management and Health
Marketing and Sales
Data Processing
Secretarial and Clerical
Management and Finance

Figure 3.6

CAREER EXPLORATION GUIDE SHEET

Student's Name Sheliah Brooks
Vocational Exploration Area Practical Nursing
Instructor Mrs. Peabody

Directions: The instructor observes and evaluates student's behaviors and skill performance daily and records the appropriate rating of 1 to 3 on each area: Safety and work habits and vocational skills. Ratings of 1 or 3 should be explained by a comment.

EVALUATION CODE

Safety and Work Behaviors
1 - Poor/not done
2 - Needs improvement
3 - Acceptable/consistent

Vocational Skills
1 - Observed skill
2 - Performed skill with assistance
3 - Performed skill independently

RATING AREA	Daily Ratings					Comments
	M	T	W	Th	F	
Safety and Work Habits wears protective clothing and devices						
demonstrates an interest in activity						
checks work before proceeding						
requests help when needed						
follows directions						
demonstrates initiative						
works cooperatively with others						
demonstrates mature behavior						
asks questions						
accepts constructive criticism						
evaluates work and corrects errors						
punctual/works efficiently						
Vocational Skills assists patient to maintain oral hygiene						
assists patient with elimination						
gives back rub						
gives bed bath						

Ultimately, the goal of the exploration stage is to expose the learners to a wide variety of occupational possibilities from which they may choose an area of interest which will result in a personal, occupational focus. It is important that the learner is provided with adequate information so that this focus can be developed. Such a focus is necessary before planning can begin for the preparation stage.

During the exploration stage, if not before, it is also important to help learners develop prevocational skills. Prevocational education attempts to orient students toward practical aspects of occupational training and job placement. The emphasis of prevocational instruction is on the acquisition of basic skills related to functional academics, personal-social abilities, and general work orientation. Some important prevocational skills include abilities in the following areas:

1. attentiveness
2. personal appearance
3. perseverance
4. self initiative
5. punctuality
6. ability to get along with others
7. exhibiting self control
8. accepting constructive criticism
9. accepting and adjusting to frustrating situations
10. following verbal directions
11. completing assigned work
12. performing tasks in a neat and orderly manner
13. working unsupervised
14. ability to transfer learning (applying like concepts to different situations)
15. seeking assistance when necessary
16. moving from one job to another
17. using time wisely
18. accepting authority
19. attendance
20. quality of work
21. quantity of work
22. exhibiting appropriate safety awareness and habits.

It is important that learners begin to plan their career goals at this phase. King-Fitch (1981) identified activities that teachers can use to assist special needs learners in developing career planning skills. These activities are listed below:

1. Assist learners in identifying a realistic career goal and an accompanying plan of action. Long-range and short-term goals should be an integral part of the action plan.

2. Assist learners in deciding what factors they will need to consider in their career planning (e.g., appropriate training program, work-related strengths and weaknesses, job requirements, career ladder opportunities).

3. Provide self-awareness activities so that learners can see how their interests and abilities relate to the identified long-range career goal.

4. Utilize interest inventories to help students relate to a number of different occupational choices. The concept of cluster or transferable skills can be reinforced through this activity.

5. Utilize values clarification games and materials that will help learners develop positive work and personal values necessary for obtaining and retaining a job.

6. Make your class reflect the real world (e.g., integrate concepts of quality control, punctuality, awareness of task, and other essential employability skills into classroom activities).

7. Provide as much career information about the specified long-range goals as possible. This information can be provided through simulated activities, filmstrips or videotapes, printed information, and shadowing activities in the community.

8. Have learners prepare a Career Notebook in which they analyze their identified career goal and information such as specific work tasks, educational and training qualifications, physical capacities, working conditions, and future trends that may affect the occupation.

9. Provide role models for special needs learners so they are aware that there are successful handicapped and disadvantaged individuals in the working world.

10. Promote the career ladder concept to encourage learners to aim higher in establishing career goals and to make them aware of opportunities for advancement in their chosen occupational field. Encourage students to always keep their options open.

11. Present discussion groups or seminars to familiarize learners with employment rights and available resources (e.g., affirmative action policies and programs, legislation mandating access, financial assistance programs, appropriate supportive agencies, and work situation modifications).

Phase 4: Career Education—Career Preparation (Secondary Level)

Objectives to:

1. provide every learner with specific cognitive, affective, and psychomotor skills in a selected oc-

cupational cluster or clusters in preparation for job entry and/or further education or training.

2. continue development of the learner's social and basic skills.
3. counsel in individual, small and large group sessions extensively.
4. provide work adjustment and work experience in a variety of settings, such as vocational programs in school settings, work settings in business and industrial sites, work activity centers and sheltered workshops.
5. provide transition services for learners who leave the educational program to enter a community and job situation or a program that provides further vocational training.
6. maintain continuous follow-up of all dropouts and graduates and use the resulting information for program revision.

Tasks that should be accomplished with learners include:

1. reality testing of a self concept
2. awareness of preferred lifestyle
3. reformulation of tentative career goals
4. increasing knowledge of and experience in occupations and work settings
5. acquiring knowledge of educational and vocational paths
6. clarification of the decision-making process as related to self.

It is essential that specific occupational information be provided to the learner during this phase. Many sources of occupational information are available through books, filmstrips, videotapes, and other media.

Occupational information can also be provided through new computer-based information banks such as the one recently established by the Vocational Technical Education Consortium of States (V-TECS), a nonprofit consortium of states which has been involved in competency-based vocational and technical education since 1973. The new product of V-TECS is the Occupational Data Analysis System (ODAS). ODAS is computer-based and uses data from three existing data bases to assist business, education, and industry in developing relevant vocational programs. These data bases include:

a. *The V-TECS Task List Data Bank* - This bank contains over 150 duty and task lists developed by the member states of V-TECS in the form of Catalogs of Performance Objectives. Each task list is classified by a Classification of Instruction Program (CIP) code used in education to identify vocational program titles and related Dictionary of Occupational Titles (DOT) job titles.

b. *Handbook of Occupational Keywords* - This data base contains over 3000 keywords or descriptors related to all aspects of work. The descriptors were designed by the Job Service of the U.S. Department of Labor to be assigned to individual work histories and jobs to permit automated computer matching of individuals to jobs. In developing ODAS, over 23,000 tasks were coded using 2000 of these keyword descriptors.

c. *Vocational Preparation and Occupations* - The VPO was developed by the National Occupational Information Coordinating Committee for the purpose of linking the different information coding systems used by the U.S. Departments of Education, Labor, and Commerce. It also reports occupational characteristics, such as the communication and computing skills required for jobs, the physical demands and working conditions of jobs, and the aptitudes, interests and temperaments associated with different job titles.

ODAS can:

a. Describe skill requirements of jobs and the level of education required for training.

b. Describe skills included in training programs.

c. Identify common skills in different training programs so programs can be clustered.

d. Describe a person's skill background with jobs or training programs.

e. Identify skills required by new and emerging occupations.

f. Identify special needs accommodations required of different jobs.

There are many applications of ODAS for special needs personnel. In the area of curriculum development, ODAS (a) identifies appropriate DOT Job Titles related to program offerings, (b) identifies basic skill requirements for each DOT Job Title, (c) identifies working environments and physical demands for each title, (d) identifies aptitudes, interests, materials, products, and services, (e) identifies specific tasks required, (f) assists in linking with labor market information. An example of the use of ODAS with special populations is as follows:

A health impaired learner is interested in floriculture work but is not able to work in high humidity environments. There are other special considerations as well. In order to help this student select an occupational choice where there is the greatest chance for success, a search of ODAS is run. The following information is acquired for use in assisting this student:

1. Floriculture DOT job titles

2. Duties performed by floriculture workers
3. The General Educational Development (GED) requirements of floriculture workers
4. The amount of training time to be competent in floriculture jobs
5. The physical demands of the jobs
6. The environmental conditions of floriculture jobs
7. The aptitudes, interests, temperaments, and materials, products, subject matter, and services of floriculture jobs.

The Carl Perkins Vocational Education Act (P.L. 98-524) mandates that career development activities be provided for special needs learners (Title II, Section 204). This will require an emphasis on infusing appropriate activities into regular educational curricula in order to provide these learners with a foundation upon which to build a base of specific skills training.

There are several models for delivering career development activities. One widely used model is competency-based career education. An example of this model is found in Brolin's, *Life Centered Career Education: A Competency Based Approach,* in which the author identifies three curriculum areas with associated competencies and subcompetencies. These three areas are outlined below:

Area I: Daily Living Skills
  Specific Competencies:
  1. Managing family finances
  2. Selecting, managing, and maintaining home
  3. Caring for personal needs
  4. Raising children, enriching family living
  5. Buying and preparing food
  6. Buying and caring for clothing
  7. Engaging in civic activities
  8. Utilizing recreation and leisure
  9. Getting around the community (mobility).

Area II: Personal Social Skills
  Specific Competencies:
  1. Achieving self awareness
  2. Acquiring self confidence
  3. Achieving socially responsible behavior
  4. Maintaining good interpersonal skills
  5. Achieving independence
  6. Achieving problem-solving skills
  7. Communicating adequately with others.

Area III: Occupational Guidance and Preparation
  Specific Competencies:
  1. Knowing and exploring occupational possibilities
  2. Selecting and planning occupational choices
  3. Exhibiting appropriate work habits and behaviors
  4. Exhibiting sufficient physical-manual skills
  5. Obtaining a specific occupational skill
  6. Seeking, securing, and maintaining employment (Brolin, p. 10).

This resource and others like it can be an invaluable asset to educators who are incorporating career development activities into their curricula.

INTRODUCTION TO VOCATIONAL EDUCATION: GOALS, PROGRAM AREAS, AND METHODS OF DELIVERY

Vocational education, as defined by the Carl Perkins Vocational Education Act (P.L. 98-524), means:

> organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment in such fields as agriculture, business occupations, marketing and distributive occupations, technical and emerging occupations, modern industrial and agriculture arts, and trades and industrial occupations, or for additional preparation for a career in such fields, and in other occupations requiring other than a baccalaureate or advanced degree and vocational student organization activities as an integral part of the program.

Vocational education is the segment of education charged with preparing people for work. It is an integral part of this nation's public educational system, representing a joint federal, state, and local partnership effort to meet our nation's need for skilled workers.

Vocational education encompasses courses to be used in the preparation for more than 400 occupations—from entry level to highly skilled. Such programs may prepare people for a particular occupation, such as computer programming, or for a group of occupations, such as the building trades, which uses similar knowledge, tools, materials, and methods.

Some of the courses are simply designed to help students acquire introductory occupational knowledge and general information about a variety of work settings. Others provide help in overcoming educational deficiencies by teaching functional and occupational literacy skills. The non-occupationally specific enrollments also include counseling and vocational guidance, industrial arts, and consumer and homemaking education. All vocational education programs place strong emphasis on helping students improve their employability by developing good work habits and attitudes.

Vocational education programs offer relevant hands-on learning experiences and an introduction to the mandates of the world of work. The proficiencies and basic skills required for employment are combined with the applied knowledge of general education to identify a realistic career goal. The role of vocational education in the public school setting is to prepare students for work. This preparation entails the development of entry-level skills in broad or specific occupational clusters.

The success of vocational education programs depends upon strong cooperation with business, industry and labor to ensure that we can meet the national employment needs of the future. The concept of seeking advice from business and industry first formally appeared in the 1963 Vocational Education Act and was strengthened in the 1968 amendments with the establishment of national and state advisory councils. Currently, vocational education is cooperating with economic development agencies in almost every state to provide customized training services for new and expanding industry. At the national, state, and local levels, vocational education and employers cooperate to establish program standards and improved curricula to ensure strong, successful programs.

Vocational education, according to the American Vocational Association (1983), has found that student success can be enhanced when carefully targeted support services are made available. Over the years, a wide range of these services have been developed. These services may be grouped into five categories:

1. *Coordination of auxiliary services* such as housing, health services, child care, and transportation.
2. *Outreach services* that inform the public about what vocational education is doing, as well as recruitment services that actively seek students for vocational programs.
3. *Instructional support services* that include help with basic skills, job readiness training, work experience, and information about laws and regulations governing specific occupations.
4. *Guidance services* that counsel, inform, and provide relevant experiences to vocational education students in all programs.
5. *Placement services* that help program participants in making the transition to work.

Institutions That Offer Vocational Education

There are eight primary types of institutions that offer vocational programs in the public sector. Placement of special needs learners is usually made in public schools because of federal mandates and federal funding. Proprietary vocational schools do not receive federal funding and also are not faced with all the mandates that confront public institutions.

Type of Institutions	Description
General High School	Offers fewer than five vocational education programs
Comprehensive High School	Offers five or more vocational education programs, but the majority of the students are not enrolled in vocational education courses
Vocational High School	Offers a full-time program of both academic and vocational subjects and with all or a majority of the students enrolled in vocational programs
Area Vocational Center	Provides vocational instruction to students from throughout the school system or region. The students receive academic instruction at their regular high school or other institution
Community College	A two-year postsecondary degree-granting institution offering a comprehensive program of both general and vocational education and offering a transfer program to higher education institutions
Technical Institute	A two-year postsecondary degree-granting institution offering instruction primarily in vocational and technical education
Area Vocational School	A postsecondary non-degree granting institution offering instruction in vocational education only
Specialized Vocational School	Offers training in one or two occupational areas

(AVA Fact Sheet, 1983)

Vocational Education Program Areas

The vocational education program areas are outlined below. Each description provides the instructional program elements, affiliated vocational student organization(s), and a representative sampling of job opportunities for the program area.

I. Agiculture Education
  A. Instructional Program Elements
    1. Production agriculture (farming and ranching)
    2. Forestry
    3. Ornamental horticulture
    4. Farm machinery operation and maintenance
    5. Agriculture power mechanics

        6. Agri-business (Ag sales and service)
        7. Conservation and natural resources
    B. Vocational Student Organization
        1. Future Farmers of America (FFA)
    C. Sampling of Job Opportunities
        1. Forester
        2. General farmer
        3. Florist
        4. Soil conservation aid
        5. Nursery greenhouse manager
        6. Machinery drafter
        7. Landscape architect
        8. Wildlife conservation officer
        9. Agri-extension agent
        10. Grain and feed salesperson
        11. Agri-journalist
        12. Park worker
        13. Machinery mechanic
        14. Farm hand worker
        15. Tree surgeon
II. Business and Office Education
    A. Instructional Program Elements
        1. Accounting and computing
        2. Business data processing systems
        3. Filing, office machine, and general office clerical
        4. Information communication
        5. Personnel, training, and related occupations
        6. Stenographic and secretarial
        7. Supervisory and administrative management
        8. Typing
    B. Vocational Student Organizations
        1. Future Business Leaders of America (FBLA)
        2. Office Education Association (OEA)
        3. Future Secretaries of America (FSA)
        4. Future Data Processors (FDP) - (sponsored by the Data Processing Management Association)
    C. Sampling of Job Opportunities
        1. Bookkeepers
        2. Cashiers
        3. Machining operators: Billing, bookkeeping, and computing
        4. Programmers
        5. File clerks
        6. General office clerks
        7. Mail and postal clerks
        8. Typists
        9. Stenographers
        10. Secretaries
III. Health Occupations Education
    A. Instructional Program Elements
        1. Dental
        2. Medical laboratory technology
        3. Nursing
        4. Rehabilitation
        5. Radiologic
        6. Opthalmic
        7. Environmental health
        8. Mental health technology
    B. Vocational Student Organization
        1. Health Occupations Student Association (HOSA)
    C. Sampling of Job Opportunities
        1. Dental (hygiene, assisting, laboratory)
        2. Nursing (practical, assistant)
        3. School health aide
        4. Physical therapy assistant
        5. Dietary assistant
        6. Housekeeping assistant
        7. Ward clerk
        8. Medical office aide
IV. Home Economics Education
    A. Instructional Program Elements
        1. Consumer home economics
            a. Preparation for personal, home, and family living
        2. Occupational home economics
            a. Care and guidance of children
            b. Clothing management (production and services)
            c. Food management (production and services)
            d. Home furnishings (equipment and services)
            e. Institutional and home management
    B. Vocational Student Organization
        1. Future Homemakers of America
        2. Home Economics Related Occupations (HERO)
    C. Sampling of Job Opportunities
        1. Extension service specialist
        2. Dietician
        3. Nutritionist
        4. Dietary consultant
        5. Home economics
        6. Interior decorator
        7. Home service director
        8. Fashion designer
        9. Home demonstration
        10. Food sales
        11. Day care management
V. Industrial Arts (Technology Education, Industrial Technology)
    A. Instructional Program Elements
        1. Woodworking
        2. Drafting
        3. Metalworking

      4. Plastics
      5. Graphic arts
      6. Power mechanics
      7. Electronics
   General Areas of Concentration
      1. Communication
      2. Construction
      3. Manufacturing
      4. Transportation
B. Vocational Student Organization
   1. American Industrial Arts Student Association (AIASA)
C. Sampling of Job Opportunities for which preliminary skills can be developed (further training in another vocational program will be necessary)
   1. Tool designer
   2. Carpenter
   3. Aircraft mechanic
   4. Electrician
   5. Mechanical maintenance person
   6. Plant operator
   7. Electrical drafter
   8. Mechanical drawing instructor
   9. Logger
   10. Welder
   11. Painter
   12. Cabinetmaker
   13. Machinist
   14. Auto mechanic
   15. Lithographer (printer)

VI. Marketing and Distributive Education
   A. Instructional Program Elements
      1. Advertising services
      2. Apparel and accessories
      3. Automotive
      4. Finance and credit
      5. Floristry
      6. Food distribution
      7. Food services
      8. General merchandise
      9. Hardware, building materials, farm and garden suppliers
      10. Home furnishings
      11. Hotel and lodging
      12. Industrial marketing
      13. Insurance
      14. International trade
      15. Personal services
      16. Petroleum
      17. Real estate
      18. Recreation and tourism
      19. Transportation
   B. Vocational Student Organization
      1. Distributive Education Clubs of America (DECA)
   C. Sampling of Job Opportunities
      1. Banker
      2. Display manager
      3. Accounting clerk
      4. Credit manager
      5. Stock clerk
      6. Telephone operator
      7. Broker
      8. Service station manager
      9. Advertising copywriter
      10. Office machines salesperson

VII. Trade and Industrial Education
   A. Instructional Program Elements
      1. Air conditioning
      2. Appliance repair
      3. Automotive services
      4. Aviation occupations
      5. Blueprint reading
      6. Business machine maintenance
      7. Commercial art occupations
      8. Commercial fishery occupations
      9. Commercial photography occupations
      10. Construction and maintenance trades
      11. Custodial services
      12. Diesel mechanics
      13. Drafting
      14. Electrical occupations
      15. Electronics occupations
      16. Fabric maintenance services
      17. Foremanship, supervision, and management development
      18. Graphic arts occupations
      19. Industrial atomic energy
      20. Instrument maintenance and repair
      21. Maritime occupations
      22. Metalworking
      23. Metallurgy
      24. Personal services
      25. Plastic occupations
      26. Public service occupations
      27. Quality food occupations
      28. Refrigeration
      29. Small engine repair, internal combustion
      30. Stationary energy sources occupations
      31. Textile production and fabrication
      32. Leathermaking
      33. Upholstering
      34. Woodworking

- B. Vocational Student Organization
    - 1. Vocational Industrial Clubs of America (VICA)
- C. Sampling of Job Opportunities
    - 1. Air conditioning/cooling
    - 2. Automotive services (body and fender, mechanics)
    - 3. Business machine maintenance
    - 4. Construction and maintenance trades
    - 5. Masonry
    - 6. Plumbing
    - 7. Carpentry
    - 8. Drafting
    - 9. Radio/television repair
    - 10. Graphic arts
    - 11. Metal trades (sheet metal, welding and cutting)

Vocational Education Curriculum

The vocational curriculum is more complex than the curriculum offered by other segments of education because it combines classroom instruction, laboratory work, participation in student organizations, and on-the-job training. In addition, because of rapid advances in technology, the vocational curriculum can become outdated more quickly than other aspects of the school curriculum.

One unique aspect of the vocational curriculum is the student organization, an integral part of vocational education instruction. Through the nine vocational student organizations, students at secondary and postsecondary levels are involved in activities that reinforce other aspects of the curriculum. Refer to Module 11 for further information.

Practical application of classroom learning through on-the-job learning is another unique aspect of vocational education. Vocational education uses seven basic approaches to connecting in-school learning with on-the-job learning:

1. *Cooperative Vocational Education.* In these programs, students are combining classroom instruction and on-the-job training under the close supervision of a coordinator. They usually attend classes for approximately half a day, then work for the balance of the school day at jobs that require them to practice the skills they have learned in the classroom.

2. *Contracting for On-the-job Instruction.* Contracted learning is another form of cooperative education. In this approach, the school pays local businesses to provide on-the-job training to students.

3. *Apprenticeships.* Apprenticeship training has been a historical method of preparing competent skilled workers on the job. Apprentices receive on-the-job training and journeyman papers upon completion of their training program.

4. *Clinical Experiences.* Several of the vocational education programs—especially in health occupations and other related human service areas—use clinical experiences to provide on-the-job learning for their students. Clinical experiences differ from cooperative education in several respects: the student is not paid, the school often provides on-site instruction through a paid staff member, and activities at the worksite are highly structured for learning purposes.

5. *School, Home, and Community Projects.* Many vocational education programs use the school, home, or community to approximate the work setting. Examples include operation of a school restaurant or cafeteria by students in food service programs, decorating rooms at home as part of a home economics course, or landscaping the town square as part of an agriculture program.

6. *After-Hours Work Site Training.* In many communities, industries allow schools to use their plants and equipment for instructional programs after work hours. During otherwise "down hours," students develop their technical skills within actual work settings.

7. *Combining Employment and Vocational Education.* Many vocational students are employed after school hours in jobs that relate to their field of study. (American Vocational Association, 1983)

In addition to teaching vocational classes and preparing related laboratory activities, the responsibilities of vocational instructors include:

1. working with advisory committees
2. planning and developing vocational program goals/philosophy
3. coordinating instruction with on-the-job training stations
4. updating technical skills ("keeping up with the field")
5. operating and supervising vocational student organization (VSO) activities
6. providing vocational guidance services
7. providing placement services.

Vocational Education Placement Options for Special Needs Learners

A variety of delivery options should be available for special needs learners. Vocational education should not be expected to assume the total responsibility for providing occupational preparation skills for these individuals. Not all individuals can benefit fully from being enrolled in regular vocational programs.

The nature and severity of the person's special needs greatly influence how much vocational education will be able to provide appropriate opportunities. Many of these learners undoubtedly will be able to succeed in regular vocational programs. In this case, vocational teachers would have the primary responsibility for providing services. Individuals with greater learning problems may be more successful in an environment where more supervision and support services are available. In this case, vocational teachers may assume a cooperative role in providing vocational services.

The National Association of State Boards of Education released a report entitled, "Vocational Education of Handicapped Youth: State of the Art" (1979). The report mentions a series of five vocational education delivery options for special needs individuals. This variety should allow individual learners to successfully develop their vocational potential to the maximum. These five vocational education delivery options include:

1. Regular vocational education programs allow learners to participate in existing vocational programs on a full-time basis, including full participation in classroom and laboratory activities. Slight modifications and/or resources may be necessary to ensure successful experiences. These might include speech therapy, special seating arrangements, social worker consultation, vocational counseling, adaptive devices or minor architectural changes. Vocational personnel should assume the primary responsibility for vocational instruction in this delivery option. Special education teachers, disadvantaged specialists and other resource personnel should function in a support role to provide supplementary or remedial services. A positive, cooperative working relationship among professionals is important.

2. Adapted vocational education programs usually require specific adaptations in the program curriculum, teaching techniques, and/or instructional materials for learners to experience success. Vocational personnel should assume the primary responsibility for vocational instruction in this delivery option also. However, support help from special needs personnel can be an invaluable resource to both the learner and the vocational teacher in the form of remedial instruction, extended time to complete program requirements, curriculum modification, material adaptation (e.g., lower reading level, large print, braille, taped instruction, programmed instruction), identification and implementation of appropriate teaching techniques, flexible scheduling, and in-class assistance (e.g., teacher aide, tutor, reader, interpreter).

3. Special vocational education programs are developed for learners who are unable to succeed in a regular vocational education program on a full-time basis. Instruction is usually provided in a self-contained classroom. Special needs personnel normally assume the primary responsibility for vocational instruction in this delivery option. Vocational education personnel should assume a secondary role and function in a support or resource capacity to ensure successful experiences. For example, vocational teachers can act as consultants to special needs teachers by identifying appropriate prerequisite entry-level skills necessary for placement in the labor market.

This program would have to be modified and individually prescribed to meet the specific abilities and needs of each individual. In this manner, the appropriate prerequisite skills could be developed for a specific job in the vocational area. An individualized approach to vocational instuction and/or time limitations for completion of tasks may have to be altered. Extensive modifications of the classroom environment, furniture, tools, and equipment may have to be considered. An open-entry/open-exit situation is often the best way of implementing this option. Special needs personnel should be directly involved in cooperative planning efforts to ensure success.

4. Individual vocational training programs are prescribed to meet the specific needs of learners who cannot succeed in regular vocational education programs. The primary responsibility for vocational training in this delivery option should be assumed by special needs personnel, vocational rehabilitation personnel, community-based organizations, or a combination. Programs are developed to provide learners with appropriate prerequisite skills for specific jobs. Work-study programs and on-the-job training situations are examples of avenues to implement this option. By taking advantage of this delivery option, special needs learners can develop specific hands-on skills for vocational or avocational purposes. An example might be a specific student who may attend laboratory/shop sessions in a transportation program during the time the instructor is demonstrating engine tune-up in the laboratory. This student could benefit from the laboratory activities without having to attend classroom lectures or read a textbook that may be too difficult. Career exploration activities can also be established in regular vocational programs to provide special needs individuals with an opportunity to explore the "world of vocational education." These activities will be helpful in identifying the specific program that is best suited to the interests and abilities of each individual learner.

5. Prevocational evaluation programs are developed

for learners whose disabilities are so severe that they are unable to participate in activities found in the regular education environment. The primary objective of this delivery option is to complete a comprehensive prevocational skills assessment and subsequently provide placement in appropriate employment or training situations. Examples of avenues to implement this option include rehabilitation-sponsored facilities, work activity centers, and sheltered workshops. Vocational rehabilitation personnel should assume the primary responsibility for vocational training in this delivery option. Special education and vocational education personnel both should assume a secondary role as consultants. Figure 3.7 provides an overview of the comprehensive system of vocational education delivery options.

SUMMARY

One of the most important provisions of the Education for All Handicapped Children Act of 1975 (Public Law 94-142) is the requirement of due process rights for handicapped individuals. These rights are granted to guarantee that appropriate testing and placement procedures occur before an individual is labeled as handicapped. Specific procedures for the referral and assessment of handicapped students must be completed before they can be placed in a special education program.

When a learner has been identified as handicapped and placed in a special education class, an appropriate educational plan must be developed. The learner must be placed in regular classes with nonhandicapped peers as often as possible. This is referred to as placing the learner in the "least restrictive environment." Support services and aids necessary to help the learner achieve success in the regular educational program must be supplied by the school district. Vocational programs represent one area in which handicapped students can be educated in the least restrictive environment. A variety of placement options should be available to allow these learners to participate in vocational education. A similar referral and assessment procedure should be followed in identifying disadvantaged students in order to provide them with support services necessary for successful participation in and completion of a vocational program.

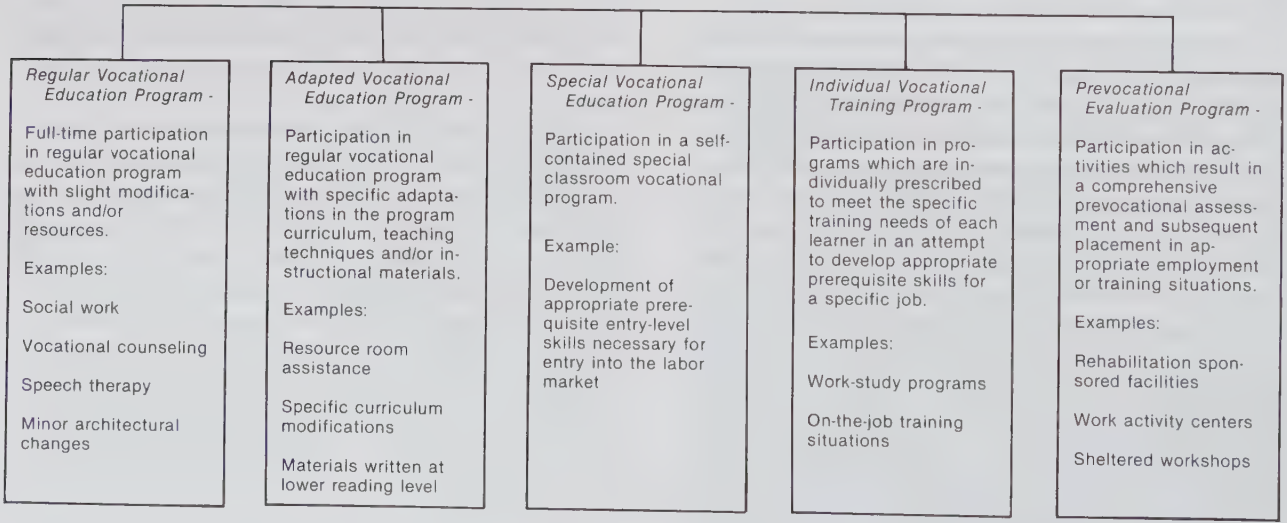
If a vocational teacher notices that a student enrolled in a program seems to be having difficulty, the learner should be carefully observed. The teacher should note the specific behaviors that the student demonstrates. The general characteristics found in Module 2 may help to identify a student in need of referral and evaluation. Details of the student's behavior should be documented in writing to provide important information during the evaluation process.

Career development is crucial for special needs in-

Figure 3.7

COMPREHENSIVE SYSTEM OF VOCATIONAL EDUCATION DELIVERY OPTIONS

Handicapped Learners: According to the nature and severity of their handicapping conditions and their specific abilities and needs, learners can be placed in one of the following delivery options. Changes in program placement can be made as learner is continuously assessed.



Regular Vocational Education Program -

Full-time participation in regular vocational education program with slight modifications and/or resources.

Examples:

Social work

Vocational counseling

Speech therapy

Minor architectural changes

Adapted Vocational Education Program -

Participation in regular vocational education program with specific adaptations in the program curriculum, teaching techniques and/or instructional materials.

Examples:

Resource room assistance

Specific curriculum modifications

Materials written at lower reading level

Special Vocational Education Program -

Participation in a self-contained special classroom vocational program.

Example:

Development of appropriate prerequisite entry-level skills necessary for entry into the labor market

Individual Vocational Training Program -

Participation in programs which are individually prescribed to meet the specific training needs of each learner in an attempt to develop appropriate prerequisite skills for a specific job.

Examples:

Work-study programs

On-the-job training situations

Prevocational Evaluation Program -

Participation in activities which result in a comprehensive prevocational assessment and subsequent placement in appropriate employment or training situations.

Examples:

Rehabilitation sponsored facilities

Work activity centers

Sheltered workshops

(Adapted from *Vocational education of handicapped youth: State of the art*, Washington, D.C.: National Association of State Boards of Education, 1979.)

dividuals. Many of these learners leave school deficient in the basic academic skills required for independence in society. They often fail to see the connection between what they are being asked to learn in school and what they will do when they leave. Waiting until high school to show this relationship may result in failure. One of the most critical gaps in the background of many special needs learners placed in vocational education programs is the lack of career education or career development activities. The four phases of the career development process are career awareness, career orientation, career exploration and career preparation. It is during this last phase that vocational education is utilized as a vehicle to provide content.

Vocational education programs offer relevant hands-on learning experiences and an introduction to the mandates of the world of work. The proficiencies and basic skills required for employment are combined with the applied knowledge of general education to identify a realistic career goal. The role of vocational education in the public school setting is to prepare students for work. This preparation entails the development of job entry-level skills in broad or specific occupational clusters.

A variety of delivery options should be available for special needs learners. Vocational education should not be expected to assume the total responsibility for providing occupational preparation skills for these individuals. Not all individuals can benefit fully from being enrolled in regular vocational programs.

The nature and severity of the person's special needs will greatly influence the extent to which vocational education will be able to provide appropriate opportunities. Many of these learners undoubtedly will be able to succeed in regular vocational programs. In this case, vocational teachers would have the primary responsibility for providing services. Individuals with greater learning problems may be more successful in an environment where greater supervision or support services are available. In this case, vocational teachers may assume a cooperative role in providing vocational services.

The National Association of State Boards of Education (1979) released a state-of-the-art report that mentioned a series of five vocational education delivery options for special needs individuals. This variety should allow individual learners to develop their vocational potential successfully to the maximum. These five vocational education delivery options include regular vocational education programs, adapted vocational education programs, special vocational education programs, individual vocational training programs, and prevocational evaluation programs.

SELF ASSESSMENT

1. What effect has labeling had on the placement of students in special needs programs in the past?
2. What law guarantees due process rights to handicapped individuals?
3. What are the due process procedures?
4. Why is the due process procedure guaranteed to handicapped individuals?
5. Identify the steps in the identification and assessment procedures for handicapped students.
6. Describe the referral for disadvantaged learners. What must be done?
7. What is the role of the vocational teacher in the referral and assessment procedure for special needs learners?
8. What is the role of the parent/guardian in the identification and assessment procedure for special needs learners?
9. What is the role of the school in the identification and assessment procedure for special needs learners?
10. What is the "least restrictive alternative" for handicapped learners?
11. If the learner is placed in a special education program, what must be provided for him/her?
12. If a handicapped learner is placed in a special education program, does this mean that he/she will no longer participate in the vocational program?
13. Describe the career development process. How is it different from vocational education?
14. Describe the four phases in the career development process, including suggested activities that can be included in each phase.
15. Why is the career development process crucial for special needs learners?
16. Define vocational education and identify the program areas associated with this discipline.
17. What guarantee does the comprehensive policy statement give for handicapped learners? What is the responsibility of vocational education in this position statement?
18. Describe several vocational delivery options that should be made available to special needs learners.

ASSOCIATED ACTIVITIES

1. Locate the person in your school who is responsible for the initial referral forms for the identification and assessment procedure. Obtain a copy of the referral form and review it. Keep it in your desk in case you identify a student in your program whom you feel should be referred for evaluation.

2. Talk to the special needs personnel in your school about the referral and assessment procedure for special needs students. Become familiar with the specific process in your state or school district so that you will be prepared to participate if a student in your program is referred.

3. Talk to the special needs personnel in your school about your role in the referral and assessment procedures for special needs students. Become familiar with the role that you would take in this process as a referring teacher.

4. Identify support personnel available to work with special needs students in your school and/or district. Talk to these people to find out exactly how they assist students to succeed in mainstreaming situations.

5. Identify career development activities that can be incorporated into your ongoing program. Share these ideas with special needs personnel so they can help to reinforce these experiences.

6. Consult the special needs personnel in your building/district to discuss the vocational delivery options that could be offered to allow special needs learners to participate in your program.

CASE STUDY: BRIDGET'S STORY

Bridget is a 17-year-old student enrolled in the appliance servicing program at a comprehensive high school. Her vocational instructor has been noticing her difficult behavior for several months.

She is hyperactive and finds it difficult to concentrate on tasks for long periods of time. She often wanders around the room during laboratory activities. Several times during the past month, Bridget has displayed outbursts of temper in class. This inappropriate behavior makes it difficult for the vocational instructor to maintain control of the rest of the class. She has also expressed feelings of deep depression and a belief that nobody likes her. Her grades have gone from A's and B's to C's and D's. She has stopped completing assigned activities outside of class and often refuses to cooperate in group activities in class expressing an intense desire to be left alone.

The vocational instructor, not knowing what to do about Bridget, talked with the special education teacher about the behavior pattern. He was encouraged to fill out an initial referral form describing Bridget's behavior. When this was completed, the referral form was processed in school and sent home to her parents. They expressed a concern over similiar behavior they were confronted with at home and agreed to allow the school to test her. A testing date was set. Bridget's parents were informed of the date and also of the test results.

A date was set to review the test results and other pertinent information with school personnel. Bridget parents were in attendance at this meeting.

A review of the test results and other data revealed that Bridget has normal intelligence. She can read and compute math problems on the same level as her peers when she puts forth the effort.

In the previous year, she attended the vocational assessment laboratory at the area vocational technical school and was found to have above average mechanical aptitude. Her coordination and dexterity skills are very good. She also has had experiences in industrial arts and in the mechanical drawing program during her freshman year. Both instructors indicated that Bridget performed well in laboratory activities and during demonstrations, but had problems paying attention during class discussions and lectures.

The school psychologist reported that Bridget was experiencing serious emotional difficulties and would benefit from being in a special education class for learners with emotional and behavior problems. In this manner she could receive assistance in behavior management and counseling. The remainder of the committee members agreed with this recommendation. Bridget's parents gave their consent for this placement.

Shortly after the meeting, the special education teacher met with an administration and Bridget's parents to develop an individualized education program (IEP). The special education teacher is working with Bridget individually and in small group sessions in the resource room.

A conference was recently held between Bridget, the vocational teacher, and the special education teacher. The class rules and regulations were firmly emphasized and the consequences were also discussed. Later, the special education teacher worked cooperatively with the vocational instructor to establish a system of simple behavior modification techniques that could be reinforced in both class environments.

A student-teacher contract system was developed for Bridget's program of study in appliance servicing. She had no problems succeeding in the blueprint reading, sketching, and basic electricity units. However, she became frustrated while working on the pipefitting and refrigeration units. This seemed to provoke her emotional outbursts.

The contracts have been set up so that the work is self-paced. Since Bridget contributed to the planning of the contract, she feels more confident about succeeding. The contract system has proven to be an effective motivating technique. Her behavior has been improving steadily. Her test grades have all been good since the special education teacher has been reviewing the material from the vocational program.

RELATED ACTIVITY

Using the information provided about Bridget, organize your information and remarks and prepare to share this information at the school committee.

Referral Information School Committee Meeting

Student's Name______________________________

Age ______________________________

Referring Party______________________________

Course Taught by Referring Party ______________________________

I. REASON FOR REFERRAL

II. DESCRIPTION OF OBSERVED BEHAVIOR

Specific Behavior Observed	Frequency

III. RECOMMENDATIONS FOR SERVICES AND ASSISTANCE NEEDED BY STUDENT IN YOUR COURSE

Suggested Service/Assistance	Agency/Individualized to Provide Service/Assistance

IV. ADDITIONAL NOTES FOR COMMITTEE MEETING

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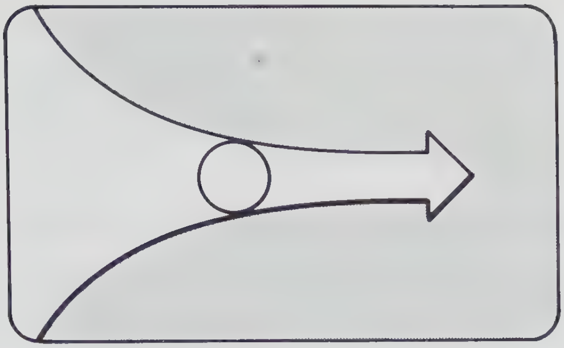


4

Vocational assessment is a process that provides information about an individual's potential. It usually occurs before a student is placed in a specific program and/or at the time the individual enters the program. The vocational assessment process provides useful information concerning aptitudes, interests, work habits, socialization skills, work attitudes, and work tolerances. This information is used to develop a comprehensive profile of an individual's assets and limitations as they relate to vocational program possibilities.

A comprehensive vocational assessment process should (a) assess the vocational potential of learners, (b) use evaluation information as a basis for vocational counseling, (c) place learners in appropriate vocational programs or job training situations, (d) design and implement individualized vocational training programs, and (e) motivate special needs students who have consistently had failures in school.

Vocational assessment requires the cooperative effort of vocational teachers and other professionals in order to provide useful information, which results in an appropriate placement and realistic instructional plan for a specific special needs learner.

This module presents information about the specific components of vocational assessment and the cooperative effort required to identify specific areas that can be accommodated and remediated to allow the special needs learner to profit from participation in an appropriate vocational program.

OUTLINE

- Purpose of Vocational Assessment
    - Benefits of Vocational Assessment
- Compiling a Learner Profile
    - Educational, Academic, and Psychological Component
    - Physical and Medical Component
    - Social and Interpersonal Relations Component
    - Prevocational and Vocational Component
- Sources for Collecting Vocational Assessment Information
    - Psychometric Tests
    - Computerized Aptitude Vocational Assessment Tools
    - Work Samples
        - A. Commercial Work Samples
        - B. Commercial Vocational Education Systems and Component Work Samples
        - C. Informal Work Samples
    - Vocational Program Tryouts
    - Situational Assessment
        - Example of a Situational Assessment Activity
- Cooperative Approach to Vocational Assessment
- Utilizing Vocational Assessment for School-based Situations

From School-based to Community-based Assessment Situations
    Job Analysis
    Sources of Job Analysis Information
        1. V-TECS Catalogs
        2. Dictionary of Occupational Titles
        3. Occupational Outlook Handbook
        4. Community Workforce Survey
    Additional Sources of Information
Summary
Self Assessment
Associated Activities
Case Study
Related Activity
References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Discuss the purpose of the vocational assessment process.
2. Explain the importance of the vocational assessment process.
3. List the major components of the vocational assessment process and briefly discuss the importance of each component.
4. Identify the specific information that can be provided by vocational assessment.

CONCEPTS

Community workforce survey - A method of collecting job analysis information by surveying local industries to determine the types and numbers of available jobs, specific skills required for each job, and working conditions.

Dictionary of Occupational Titles (DOT) - An inventory of occupations within the economy prepared by the United States Department of Labor. This resource provides information about the physical demands, working conditions, and aptitudes for a specific job, as well as identifies the relationships to people, data, and things. The information is collected through observation of workers and job sites by occupational analysis.

Job analysis - A procedure providing information on what a worker does, how the job is done, and why it is necessary.

Learner profile - Information gathered and organized to provide relevant background information pertaining to a particular student. Components usually include information in the following areas: (a) educational/academic/psychological, (b) physical/medical, (c) social/interpersonal relations, and (d) prevocational/vocational.

Occupational Outlook Handbook - A publication of the United States Department of Labor that provides information concerning more than 850 occupations in a variety of major industries. Specific information provided for each major job includes (a) what the job is like, (b) places of employment, (c) personal qualifications, (d) training qualifications, (e) educational qualifications, (f) working conditions, (g) earnings, (h) opportunities for advancement, and (i) sources of additional information.

Situational assessment - A technique that uses observation skills to record the vocational behaviors and work habits that learners exhibit while performing specific work tasks in a simulated or actual job situation. Learners are observed and evaluated while working in a group rather than on an individual basis.

Vocational assessment - A comprehensive process conducted over a period of time, involving a multi-disciplinary team with the purpose of identifying individual characteristics, education, training, and placement needs, which provides educators the basis for planning an individual's program.

Vocational evaluator - A trained individual who administers and interprets vocational assessment tests and other varieties of vocational evaluation activities and procedures.

V-TECS (Vocational-Technical Education Consortium of States) - A consortium of states providing competency-based vocational technical education materials.

Work adjustment - Behaviors that must be learned in order to function effectively with fellow workers and job supervisors.

Work habits - Behaviors related to work that are demonstrated without conscious thought, such as dependability, initiative, and loyalty.

Work samples - Activities that simulate real work tasks and are closely associated with actual jobs in the labor market. They emphasize performance skills rather than verbal or written skills and incorporate the tools and standards associated with the actual job.

MODULE 4
VOCATIONAL ASSESSMENT OF SPECIAL NEEDS LEARNERS

PURPOSE OF VOCATIONAL ASSESSMENT

Dahl defines vocational assessment as "a comprehensive process conducted over a period of time, involving a multi-disciplinary team. . .with the purpose of identifying individual characteristics, education, training, and placement needs, which provides educators the basis for planning an individual's program. . ." Vocational assessment, or vocational evaluation, is a process of collecting information and attempting to answer questions that naturally arise in the continuum of activities that comprise an individual's training for employment (Cobb and Danehey, 1985). This information should be obtained over a time through real-life work situations and/or simulated work activities. Vocational assessment may include such areas as information relative to an individual's (a) vocational aptitudes, (b) vocational interests, (c) work habits, (d) socialization skills, (e) personal adjustment skills, (f) work attitudes, and (g) work tolerance.

Types of data that can be collected through vocational assessment activities include (a) medical information, (b) prevocational skills, (c) independent living skills, (d) career development background (awareness, orientation, exploration, preparation), (e) aptitudes, (f) functional educational skills, (g) vocational interests, (h) physical and dexterity skills, (i) specific job competencies, (j) learning style(s), (k) work adjustment skills (work behaviors, habits, and attitudes), and (l) attitudes.

The process should involve all the aspects of the individual's career development, including social, medical, psychological, and economic. It should revolve around student-centered learning activities and lend itself to providing feedback relative to prerequisite skills, learning style(s), instructional needs, and appropriate vocational training and placement options.

The purpose of the vocational assessment process is to develop a comprehensive profile of the individual's assets and limitations as they relate to vocational possibilities. Information from the vocational assessment process can be used to (a) identify prevocational or life skills needs, (b) provide a comprehensive view of an individual's abilities and limitations to be used in career development planning, (c) provide direction for placement in an appropriate vocational program, (d) suggest necessary support services, and (e) identify necessary vocational curriculum modification.

Vocational assessment should not be a solitary activity. In order for the information collected from the process to be effective, it should be a continuous activity. The onset of vocational assessment usually occurs before a vocational program placement decision is made for a specific learner or at the time the student enters the program.

In the past, vocational evaluation results have often been used to screen individuals out of vocational education programs. Instead, information gathered through vocational assessment should be carefully analyzed and used to determine appropriate program placement and planning procedures for special needs learners according to their abilities, interests, and needs.

If weaknesses are observed during the assessment process, they can usually be strengthened through a combined effort by various disciplines. Therefore, the vocational assessment procedure can identify specific areas that can be accommodated and/or remediated to allow the individual to profit from participation in an appropriate vocational program.

A comprehensive vocational process can (a) assess the vocational potential of learners, (b) provide evaluation information for vocational counseling, (c) identify realistic vocational program or job training options, (d) provide specific information for appropriate program objectives, and (e) motivate special needs students who consistently have had failure experiences in school. Figure 4.1 identifies information that can be obtained through a comprehensive vocational assessment process.

Benefits of Vocational Assessment

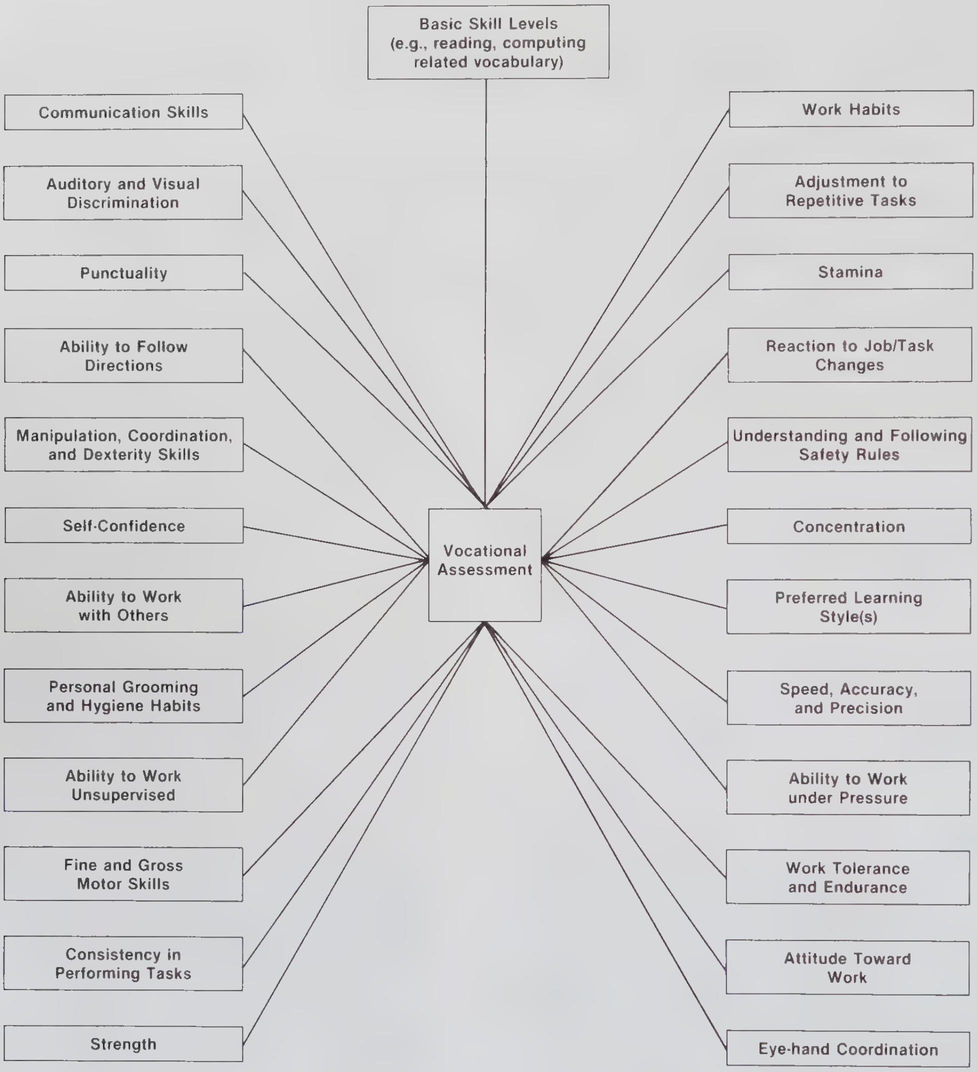
An overview of the benefits of the vocational assessment process are listed below.

1. Vocational assessment activities help learners to start thinking about the world of work.

Figure 4.1

INFORMATION OBTAINED THROUGH VOCATIONAL ASSESSMENT

Information that can be obtained through a comprehensive, ongoing vocational assessment process includes, but is not limited to, the following areas:


Basic Skill Levels (e.g., reading, computing related vocabulary)
Communication Skills
Auditory and Visual Discrimination
Punctuality
Ability to Follow Directions
Manipulation, Coordination, and Dexterity Skills
Self-Confidence
Ability to Work with Others
Personal Grooming and Hygiene Habits
Ability to Work Unsupervised
Fine and Gross Motor Skills
Consistency in Performing Tasks
Strength
Work Habits
Adjustment to Repetitive Tasks
Stamina
Reaction to Job/Task Changes
Understanding and Following Safety Rules
Concentration
Preferred Learning Style(s)
Speed, Accuracy, and Precision
Ability to Work under Pressure
Work Tolerance and Endurance
Attitude Toward Work
Eye-hand Coordination
Vocational Assessment

2. Actual simulations of real jobs can be set up in the classroom or laboratory and tried out without any pressure.

3. Vocational assessment activities can be an appropriate substitution for, or an addition to, the more traditional verbal classroom activities.

4. Vocational assessment activities can motivate students to learn more about related academic material (e.g., reading, math, communication skills).

5. Vocational assessment results provide a means of comparing learner abilities with actual job competencies.

6. Vocational assessment activities can be used as a tool for setting up behavior modification techniques relating to work habits and interpersonal relationships.

7. Vocational assessment activities provide learners with a reason to learn material because they represent the real world.

8. Vocational assessment results can identify specific vocational strengths and weaknesses.

9. Vocational assessment experiences can build self-confidence.

10. Vocational assessment can provide information suggesting modifications to curriculum, facilities, equipment, instructional delivery, and student evaluation procedures.

Vocational assessment referrals should be made when it is time to determine whether a student is ready to enter a specific vocational program or to identify what remedial services will be needed for the learner to complete the program successfully. If vocational assessment is provided as a component of vocational exploration, the purpose can be to expose the learner to realistic work situations so that work-related aptitudes can be compared with career interests. In this manner, suggestions for appropriate vocational programs for the student can be provided.

Vocational assessment for handicapped and disadvantaged learners is mandated by the Carl Perkins Vocational Education Act (P.L. 98-524). In Title II, Part A requires that each (handicapped and disadvantaged) student who enrolls in vocational education programs shall receive (1) assessment of the interests, abilities, and special needs of such student with respect to completing successfully the vocational education program; (2) special services, including adaptation of curriculum, instruction, equipment, and facilities; (3) guidance, counseling, and career development activities conducted by professionally trained counselors who are associated with the provision of such special services; and (4) counseling services designed to facilitate the transition from school to post-school employment and career opportunities [Section 204(c)].

The National Association of Vocational Education Special Needs Personnel (NAVESNP), an affiliate organization of the Special Needs Division of the American Vocational Association that formed a Committee on Vocational Assessment (1981), made the following statement about vocational assessment services in school settings:

> Comprehensive vocational assessment services are considered to be an invaluable tool for use in career education planning for all students. However, students with special needs—especially handicapped or disadvantaged—should have priority in receiving comprehensive vocational assessment evaluation services.
>
> Formal vocational assessment should occur approximately one year prior to placement in vocational education. This will usually occur around the ninth and tenth grade. However, informal and less intensive vocational assessment is extremely helpful in guiding the student into prevocational types of activities and should begin as early as age 12 or 13. Reevaluation may often be scheduled to update recommendations since students may improve skills.

The committee described six "administrative models" for vocational evaluation services in school settings:

1. assessment in the special education classroom
2. assessment in occupational exploration
3. integrated vocational assessment
4. vocational evaluation center
5. contracted vocational assessment
6. mobile vocational evaluation units (McCray, p. 10).

Vocational assessment services can be provided by a number of agencies or institutions. A sample of facilities where evaluation programs may be available in local school systems include:

1. vocational high schools;
2. comprehensive high schools;
3. area vocational schools;
4. school-based evaluation centers;
5. postsecondary vocational technical centers or community colleges;
6. career development centers;
7. rehabilitation services facilities.

Examples of evaluation programs provided by public or private agencies include:

1. sheltered workshop facilities;
2. rehabilitation centers;
3. commercial evaluation centers;
4. hospital facilities;
5. Goodwill Industry facilities;
6. Association for Retarded Citizens (ARC) facilities.

Information obtained from vocational assessment activities should not be viewed in isolation. Rather, the results should be interpreted as they relate to other pertinent information. Data concerning physical capacities, attitudes, aptitudes, and interests should be reviewed and analyzed in relationship to factors such as (a) specific entry-level requirements of a vocational program for which the student would be eligible, (b) the individual's preferred mode of learning, conditions for effective learning and general rate of learning, (c) feelings that a student has about entering a particular vocational program, and (d) responses to specific referral questions.

Information collected through vocational assessment experiences should be used for a variety of purposes such as vocational counseling, the cooperative development of the vocational component of an individualized education program (IEP) for handicapped students or an individual prescribed program (IPP) for disadvantaged students and the identification of specific services necessary to increase the level of work of a learner.

COMPILING A LEARNER PROFILE

An important component of the vocational assessment process is the collection of relevant background information. This information can be organized into a learner profile for use during the vocational assessment process. The profile should obtain information in the following areas: (a) educational/academic/psychological, (b) physical/medical, (c) social/interpersonal relations, and (d) prevocational/vocational.

A variety of sources that can be helpful in providing relevant background information for a specific learner are available. These sources include:

1. attendance records
2. anecdotal reports
3. school academic records
4. teacher observations
5. achievement profiles
6. health and medical records
7. personal interviews
8. vocational/guidance counselor reports
9. professional evaluations
10. referral reports
11. skill performance tests
12. conferences
13. home visitation reports.

Educational, Academic, and Psychological Component

The educational, academic, and psychological component of the learner profile should be compiled and used as a guide to the individual's achievement and potential in academic areas. Academic ability is certainly not the only consideration for vocational and employment placement. However, information compiled in this section of the learner profile can be beneficial in analyzing and applying the educational strengths and weaknesses of a specific individual as they relate to vocational development and eventual employment opportunities. This information should also be used in identifying necessary program modifications.

Figure 4.2 suggests some basic background information that could be integrated into the educational, academic, and psychological component of the learner profile.

Physical and Medical Component

The physical and medical component of the learner profile should be compiled and used as a guide to the individual's general health, physcial capacities and limitations as they relate to vocational development and eventual employment opportunities. This information should also be used in identifying necessary program or job modifications. For example, an individual who wishes to be trained as a nurse's aide should have:

1. the ability to stand about 100% of the work time
2. the ability to frequently bend forward
3. the ability to occasionally kneel or crouch
4. the ability to occasionally push 75 pounds
5. the ability to occasionally pull 75 pounds
6. the ability to occasionally lift 100 pounds
7. the ability to frequently reach up, down, sideward, and behind
8. the ability to bend and twist arm
9. hand and finger mobility
10. coordination of both arms and hands (bilateral)
11. eye-foot coordination
12. depth perception
13. color vision.

Appropriate modifications necessary for these capabilites should be identified during assessment and incorporated into the planning phase of the vocational preparation program—in this case a health occupations program. Figure 4.3 suggests some basic background information that could be integrated into the physical and medical component of the learner profile.

Social and Interpersonal Relations Component

The social and interpersonal relations component of the learner profile should be compiled and used as a guide to the individual's social skills and ability to get along with others. Important information in this area includes observation and data relating to maturity, work attitudes and habits, personal hygiene, family background, and relationship to peers and authority figures. Figure 4.4 suggests some basic background information that could be integrated into the social and interpersonal relations component of the learner profile.

Prevocational and Vocational Component

The prevocational and vocational component of the learner profile should be compiled and used as a guide to the individual's background preparation in prevocational skills, experiences in vocational education, employment history, and expressed career goal. Figure 4.5 suggests some basic background information that could be integrated into the prevocational and vocational component of the learner profile.

Figure 4.2

SUGGESTED BACKGROUND INFORMATION FOR LEARNER PROFILE—EDUCATIONAL/ACADEMIC/PSYCHOLOGICAL COMPONENT

The following educational, academic and psychological information would be helpful in developing a pupil profile to contribute to the vocational assessment process:

1. Overall performance levels (i.e., standardized achievement results):
    a. Reading level__________
    b. Comprehension level__________
    c. Mathematics level__________
    d. Spelling__________
2. School Achievement Records (e.g., rate of learning = below average, average, above average):________________________
3. Permanent Record/Transcripts (i.e., grades):______________
4. Language development (speech or comprehension difficulty):
    a. listening skills:_____________________________________
    b. relating messages/information:_______________________
5. Psychological assessment:
    a. test used____
    b. date____
    c. test results____
6. Communication skills (e.g., conversation skills, writing skills):
____
7. Attendance records (i.e., attendance history, reasons for excessive absences):____________________________________
8. Student's Strong Learning Style:
    a. Visual (i.e., reading, demonstration):___________________
    b. Auditory (i.e., lecture, oral directions):________________
    c. Kinesthetic (i.e., motor or hands-on activities):_________
9. Appropriate instructional techniques:_____________________
10. Perceptual - motor skills development:____________________
11. Specific problems the student is experiencing in academic areas:____
12. Student's academic strengths:____________________________
13. Student's academic weaknesses:__________________________
14. Results of vocational interest batteries:___________________
15. Specific teacher observation reports:_____________________

Figure 4.3

SUGGESTED BACKGROUND INFORMATION FOR LEARNER PROFILE—PHYSICAL/MEDICAL COMPONENT

The following physical and medical information would be helpful in developing a pupil profile to contribute to the vocational assessment process:

1. Condition of general health:____________________
   a. Results of general medical examination:____________
   b. Date of general medical examination:____________
2. Physical capacities/limitations (i.e., strength, stamina, chronic illnesses, physical disabilities, etc.):____________
3. Sensory Development:____________________
4. Motor Development:____________________
   a. Fine motor skills:____________________
   b. Gross motor skills:____________________
5. Vision Ability:____________________
6. Hearing Ability:____________________
7. Manual and finger dexterity:____________________
8. Eye-hand coordination:____________________
9. Ability to cope physically in classroom/laboratory/job situations:____________________
10. Modifications necessary in classroom/laboratory/job environment:____________________
11. Modifications necessary in equipment/machinery/tools:

    ____
12. Is the student currently on medication?____________
13. If yes, what is the medication used for?____________
14. Possible side effects of the medication:____________
    a. Possible effect(s) of the medication on the social ability of the individual:____________________
    b. Possible effect(s) of the medication on the emotional stability of the individual:________________
    c. Possible effect(s) of the medication on the academic ability of the individual:________________
    d. Possible effect(s) of the medication on the ability of the individual to perform/complete job assignments:________

       ____

Figure 4.4

SUGGESTED BACKGROUND INFORMATION FOR LEARNER PROFILE—SOCIAL/INTERPERSONAL RELATIONS COMPONENT

The following social and interpersonal relations information would be helpful in developing a pupil profile to contribute to the vocational assessment process:

1. Ability to cope socially in classroom/laboratory/job situation: ______________________
2. Ability to cope emotionally in classroom/laboratory/job situation: ______________________
3. Ability to cope in group activities: ______________________
4. Attitude:
   - __________ defiant/hostile
   - __________ antisocial
   - __________ passive
   - __________ moody
   - __________ aggressive
   - __________ withdrawn
   - __________ other (specify): ______________________
5. Motivation level: ______________________
6. Relationship with peers: ______________________
7. Relationship with teacher: ______________________
8. Personality Characteristics:
   - General Attitute toward School: ______________________
   - Accepts Authority: ______________________
   - Cooperation with Adults: ______________________
   - Cooperation with Peers: ______________________
   - Appropriate Conduct: ______________________
   - Decision-making Skills: ______________________
   - Assumes Responsibility: ______________________
   - Maturity: ______________________
   - Self-control: ______________________
   - Reaction to Criticism: ______________________
   - Other (specify): ______________________
9. Grooming/Personal hygiene habits: ______________________
10. General family situation: ______________________

Figure 4.5

SUGGESTED BACKGROUND INFORMATION FOR LEARNER PROFILE—PREVOCATIONAL/VOCATIONAL COMPONENT

The following prevocational and vocational information would be helpful in developing a pupil profile to contribute to the vocational assessment process:

1. Results of formal vocational assessment (standardized tests, formal work samples, formal activities):________________
____
2. Results of aptitude tests:________________________
3. Results of informal vocational assessment activities (exploration activities, job tryouts, situational assessment):
____
4. Results of interest surveys:________________________
5. Results of student interview:
   Student interest:________________________________
   Career goal:________________________________
6. Prevocational background:________________________
7. Work-study experience:________________________
8. Work history (including employer's comments):____________
9. Vocational classes taken:________________________
10. Student self-assessment (e.g., analysis of abilities, limitations, projected lifestyle):________________________
11. Knowledge of tool usage:________________________
12. Are work habits consistent with employment demand:
____
13. Vocational strengths:________________________
14. Vocational weaknesses:________________________

SOURCES FOR COLLECTING VOCATIONAL ASSESSMENT INFORMATION

It is essential that information about special needs individuals be obtained from a variety of sources in the assessment process so that appropriate planning can be implemented for each learner in a vocational program setting. A variety of rating scales, interviews, work samples, tests, and inventories can be used to collect this information.

Psychometric Tests

Psychometric tests are often used by evaluators to assess specific intellectual abilities, psychomotor abilities, personality characteristics, and specific vocational aptitudes. The results of these tests are ordinarily used in conjunction with other assessment components, such as work sample activities.

Elements of psychometric testing include the use of achievement tests, intelligence tests, interest inventories, manipulative skill tests, personality inventories, and social maturity tests. These are examples of norm-referenced tests. Gemmill (1979) identifies the strengths and weaknesses of these information gathering tools as follows:

Norm-referenced tests provide the following benefits:

1. Student performance is measured in reference to large numbers of similar individuals (i.e., standardization).
2. The results are used to determine a student's eligibility for funding and special services.
3. The tests are generally quick, easy, and inexpensive to administer.
4. Reliability is usually greater than the reliability for criterion-referenced tests.
5. Administration and interpretation is by trained experts.
6. The results are precise and quantitative.

Norm-referenced tests also have weaknesses, including:

1. The student might not be representative of the normative group of students on which the test was standardized.
2. Each student is compared to other students and not to previous individual performance and program objectives.
3. The test environment may be threatening to the student.
4. Group test results might not be reliable for special needs learners.
5. The prediction of a student's behavior from these tests is usually low.
6. The teacher may not have the benefit of diagnostic information that is derived from the test.
7. Results may not be specific enough to help the vocational teacher plan for the learner's needs.

A list of commonly used tests in these areas is provided below:

Achievement and Reading Tests
- Adult Basic Learning Examination
- Wide Range Achievement Test
- Peabody Individual Achievement Test
- Test of Adult Basic Education
- Key Math Test
- California Achievement Test

Intelligence Tests
- Slosson Intelligence Test
- Otis Quick-Scoring Mental Ability Test
- Peabody Picture Vocabulary
- Revised Beta
- Wechsler Adult Intelligence Scale
- Raven Progressive Matrices

Aptitude and Dexterity Tests
- General Aptitude Test Battery
- Non-reading Aptitude Test Battery
- Flannigan Aptitude Classification Tests
- Differential Aptitude Tests
- Bennett Mechanical Comprehensive Test
- McDonald Vocational Capacity Scale
- Crawford Small Parts Dexterity Test
- Pennsylvania BiManual Work-sample
- Purdue Pegboard
- Minnesota Rate of Manipulation Test
- Hand–Tool Dexterity Test
- Stromberg Dexterity Test
- Lincoln–Oseretsky Motor Development Scale
- Minnesota Spatial Test
- Purdue Perceptual Motor Survey

Personality Tests
- Minnesota Multiphasic Personality Inventory
- Vineland Social Maturity Scale
- AAMD Behavior Adoptive Scales
- Adjustment Inventory
- California Psychological Inventory
- Career Maturity Inventory
- Sixteen Personality Test

Interest
- Kuder General Interest Survey
- Ohio Vocational Interest Survey
- Strong Vocational Interest Blank
- Picture Interest Inventory
- Vocational Interest and Sophistication Assessment Survey
- Gordon Occupational Checklist
- AAMD Reading Force Vocational Interest Inventory
- Minnesota Vocational Interest Inventory
- Geist Interest Inventory
- Picture Interest Exploration Survey (PIES)
- Self-Directed Search
- Singer/Graflex Pictorial Interest Screening
- Wide Range Interest Opinion Test
- California Picture Interest Inventory
- Program for Assessing Youth Employability Skills (PAYES)

Two areas of psychometric testing that should be of particular interest to vocational personnel include interest inventories and aptitude and dexterity tests because the results can relate directly to an interest in specific vocational program areas and aptitudes applicable to tasks associated with the program.

Most interest inventories provide the individual with pictures and information about workers and jobs.

Learners respond to those pictures and jobs that generate the most interest and/or to pictures that represent jobs that they react negatively to. In some inventories individuals are asked to respond to items developed to measure job knowledge and job-seeking skills. Responses are analyzed and provide specific job titles or occupational clusters that the respondent has indicated an interest in. Further activities, such as career counseling, exploratory experiences in vocational programs or job try-outs, can be developed to collect additional assessment information regarding vocational interest. Aptitude tests do not necessarily predict whether a person has the ability to learn, but rather they provide information about the level of difficulty an individual may have in performing certain tasks and learning accompanying procedures.

Several disadvantages in relying heavily on the results of aptitude tests exist. First, special needs learners often have had little work experience to bring to a testing situation. This can adversely affect job predictability. Pencil-paper tests are not always reliable because they require reading skills in order to respond to the test items. Single aptitude performance tests measure only manual dexterity skills. In this case, other physical skills (e.g., carrying, climbing, lifting) should be assessed through other tests.

Advantages of using aptitude tests include observation of how the learner works through a problem during the administration of the test. Information can be obtained about work-related behaviors, including ability to follow directions, frustration tolerance, and attention to task.

A motivated learner, through proper training, often can become employable in a specific job area despite a low aptitude score. Therefore, it is important to utilize a number of tests that measure aptitudes required of specific occupations for which vocational programs are available prior to making a decision about program placement.

Manual dexterity tests provide information about a learner's fine motor skills. Although the purpose of these tests is to gather data relative to perceptual motor skills, the evaluation can also show something about the individual's work habits, ability to follow directions, communication skills, and attention to task on routine or repetitive tasks through observation during the testing session. Two examples of frequently used manual dexterity tests are described below.

1. *Bennett Hand Tool Dexterity Test* - designed to measure proficiency in using ordinary mechanic tools.

Given nuts, bolts, mechanic's tools, and a testing board, the individual follows the testing procedure in a 15-minute timed test. A wooden frame is clamped to a table. There are three sizes of nuts and bolts together in the upper left quadrant. Ordinary hand tools are arranged in the center. The learner is to use the hand tools to remove the pieces from the left quadrant from large to small. After the individual removes the small and medium pieces, he/she begins reassembling the pieces on the lower right from small to large.

2. *Crawford Small Part Dexterity Test* - designed to measure finger dexterity (eye-hand coordination).

Given tweezers, pins, collars, screws, testing board, and screwdriver, the individual follows the test procedure after six trials. The student uses the tweezers and picks up one pin at a time from the first pan and places one pin in each hole across the top row on the left side. After placing a pin in each hole, the student takes a collar from the second pan and places one on each pin. The student is timed on the completion of 36 holes. When the student has completed the left side, he/she then goes to the right side of the board and places a screw in each hole across the top row using the fingers to screw them in enough that the screws will stand up. After placing a screw in each hole, a screwdriver is used to secure the screws the rest of the way in. All 36 holes will be done the same way while the individual is timed.

Computerized Aptitude Vocational Assessment Tools

As technology increases, the use of the computer in various phases of vocational assessment is becoming more and more widespread. The Vocational Research Institute has introduced the APTICOM, a computerized desktop console that tests cognitive, manipulative, and perceptual aptitudes. APTICOM is self-timing, self-scoring, and produces an aptitude profile related to established occupational patterns. From start to finish, APTICOM takes less than 70 minutes to provide an individualized assessment. APTICOM has 11 separate tests:

TEST NAME	APTITUDE MEASURED
Practice	
Object Identification	Form Perception (P)
Abstract Shape Matching	Form Perception (P)
Clerical Matching	Clerical Perception (Q)
Eye-Hand-Foot Coordination	Eye-Hand-Foot Coordination
Pattern Visualization	Spatial (S) General Learning Ability (G)
Computation	Numerical (N)
Finger Dexterity	Finger Dexterity (F)
Numerical Reasoning	Numerical (N) General Learning Ability (G)
Manual Dexterity	Manual Dexterity (M)
Word Meanings	Verbal (V) General Learning Ability (G)
Eye-Hand Coordination	Motor Coordination (K)

With the addition of a printer, APTICOM automatically converts test scores and generates a printout of Occupational Aptitude Patterns, and Department of Labor Work Groups are individualized for each test taker.

Work Samples

Work samples simulate tasks that are closely associated with jobs in the labor market. The activities performed in work sample situations should be as realistic as possible. They incorporate the tools and standards associated with the actual job. Work samples are a common component of the vocational assessment process because they emphasize performance skills and approximate work more closely than written activities and tests. These activities provide the observer with an opportunity to observe actual work behavior in a controlled setting. Results of observation and feedback lead to direct information rather than biased decisions based on little more than personal opinion.

Special needs learners profit from work sample activities because they provide practical hands-on experiences. These experiences can assist learners in identifying their strengths and weaknesses, determining a realistic career goal, increasing self-esteem, and generating interest in the variety of vocational program alternatives available.

At the same time, work sample activities provide the evaluator with observation information concerning the work habits, manipulative skills, physical abilities, interpersonal skills, and work capacity of the specific learner. This information is helpful in analyzing vocational potential, selecting appropriate training programs, and identifying necessary program modifications. The results of work sample evaluation can provide a useful tool in career counseling, program development and job placement.

A. Commerical Work Samples. Several advantages of using commercial work samples in the vocational assessment process exist. Commercial work samples tend to motivate students because they are more like real job tasks than paper and pencil assignments. Although an individual's performance on work samples cannot predict success in actual job situations, it can provide the evaluator with important observational information about functional ability, work attitudes, and vocational interests. It also provides experiences for hands-on testing and following oral directions.

There are several disadvantages in using commercial work samples in the vocational assessment process. The systems are often expensive and time-consuming to administer. Some work samples that are supposed to represent various occupational areas are too simple and do not present a realistic view of the job. The norms provided for work sample performance may not relate to the population being evaluated (e.g., work samples normed on the performance of nonhandicapped individuals will not be valid for handicapped individuals being evaluated). The following example illustrates how the work sample assessment procedure can be used effectively.

Example of a Commerical Work Sample. Suzanne Cope has been referred by the special needs coordinator for a vocational assessment at the area vocational-technical school. A number of commercial work sample batteries are used by the evaluator at this center. They are used because of the close relationship between the work samples and the available vocational training programs in the district.

Suzanne selects several work sample areas in which she has an interest, including carpentry and drafting. The evaluator starts her at the work station relating to carpentry. The work station is situated at a self-contained work area with partitions on each side of the desk. Suzanne sits at the work station and sees a variety of tools that are used in carpentry. She also finds an audiovisual projector with a remote control operated panel, a filmstrip, and a tape cartridge.

An audiovisual presentation shows Suzanne how to operate the machine and presents information about jobs that are associated with the carpentry area. Another filmstrip/cassette presentation orients her to the tools that are in front of her at the work station.

The next phase takes Suzanne through a step-by-step simulation activity associated with carpentry using the tools and materials at the work station. In the carpentry work sample, the task is to make a napkin holder out of dowels, a board, and plywood. The task operations involve measuring, laying out, cutting, hammering, chiseling, and drilling the pieces for fabrication. The slide/cassette presentation on the projector instructs and illustrates each step of the task. Suzanne watches the screen, listens, and follows the directions given to her. She is allowed to stop the presentation if she is having trouble keeping up with the task.

While Suzanne is working on this task, the evaluator is observing her performance. She will be rated on speed and quality of her work. Her scores can be compared to norm group scores to see how she performed compared to others. At the end of the task, the evaluator also asks Suzanne to rate herself for speed and quality.

B. Commercial Vocational Evaluation Systems and Component Work Samples. The following pages describe some common commercial vocational evaluation systems currently available for use. Each system consists of a variety of work samples that simulate tasks required in a specific vocational area and/or in business and industry. They do not represent a total list of all the batteries that are available nor an endorsement for any single commercial system.

Work samples to be used should be analyzed in terms of how the evaluation information relates to the skills necessary for successful participation in the vocational program. It is also important to check the target groups on which these batteries are normed. Some systems were developed especially for one or two areas of handicapping conditions (e.g., mentally retarded, physically handicapped). Others are more general and were developed for use with all special needs populations (handicapped and disadvantaged individuals).

Selection of appropriate commercial systems should also take into consideration the following factors:

1. Range of jobs available in the community and scope of jobs represented in the work sample;
2. Validity and reliability for the client population to be served; and
3. Purpose of the evaluation—(a) occupational information through hands-on experience, (b) assessment of present skills and aptitudes without relating information to career functions, (c) a thorough evaluation of student aptitudes and work behaviors, (d) occupational information and dissemination, and (e) occupational exploration (Revell, Kriloff, and Sarkees, 1980, p. 80).

Brolin (1973) identified a series of questions to ask when considering a commercial system:

1. Does the system take into account expectancy to fail?
2. Does the system take into account academic limitations?
3. Does the system take into account verbal limitations?
4. Does the system take into account experience limitations?
5. Does the system allow for more than one trial on tasks?
6. Does the system allow for repeated instruction and check for comprehension?
7. Does the system have face validity? (i.e., Is it an accurate assessment of the content presented?)
8. Does the system allow for appropriate conditions for testing? (i.e., Does it offer pleasant surroundings, orderly administration, and considerations for fatigue of individuals?)
9. Is the system adequately normed on handicapped individuals and the workers who are doing the various types of tasks?

C. Informal Work Samples. Locally developed work samples can represent an excellent means of assessment because they are more closely associated with the limitations and demands of the local labor market than commercially developed work samples. Work sample activities can be developed by vocational personnel to evaluate the abilities of learners to perform specific work tasks. Informal work samples generally are not as expensive as commercial work sample systems. The tools, equipment, and supplies used in regular vocational program activities are used in informal work sample experiences. These activities usually reflect proficiencies necessary for entry-level vocational courses associated with the program. These samples cannot always represent the total classroom curriculum, but they include tasks that suggest a potential for successful performance in the classroom and help to point out areas for remediation.

Vocational teachers should follow a sequence of basic steps when developing a work sample:

1. Survey the local vocational curriculum to determine programs that will be available to students.
2. Based on the information collected, decide which courses are appropriate for work sample development.
3. Analyze the classroom environment and specific tasks to be simulated by the work sample. It is very important that the skills required for the class are the same as those represented in the work sample. If the skills are not the same, the work sample will not be valid.
4. Design the work sample by developing activities that simulate the tasks expected for a specific class. Keep in mind (a) prerequisite skills that may be necessary, (b) tools, equipment and materials used on the job, (c) working conditions and the work environment associated with the class, and (d) criteria for successfully completing the work sample.
5. Determine how the work sample will be explained and/or demonstrated to special needs learners. It is critical to have the sample reviewed by the classroom teacher, who actually teaches the class before using it as an assessment tool. Vocational teachers should become actively involved in the work sample development when they realize that it is being used specifically for their class.
6. Establish scoring criteria. The vocational teacher

COMMERCIAL VOCATIONAL EVALUATION SYSTEMS

Comprehensive Occupational Assessment and Training System (COATS) Vocational Education System

Address: PREP, Inc.
1575 Parkway Avenue
Trenton, NJ 08628

This system consists of twenty work samples covering 63 occupations.

The work samples include:

1. drafting
2. clerical/office
3. metal construction
4. sales
5. wood construction
6. food preparation
7. medical services
8. travel services
9. barbering/cosmetology
10. small engines
11. police science
12. masonry
13. electrical
14. accounting and bookkeeping
15. agri-business
16. climate control
17. electronics
18. clothing and textiles
19. fire science
20. real estate
21. abstract reasoning
22. language and numerical reasoning
23. reading grade level
24. mathematics grade level

Jewish Employment and Vocational Service (JEVS) Vocational Evaluation System

Address: Vocational Research Institute, Inc.
Jewish Employment and Vocational Service
1624 Locust Street
Philadelphia, PA 19103

This system consists of 28 work samples organized into 10 worker trait groups including:

1. handling
2. sorting, inspecting, measuring and related work
3. tending
4. manipulating
5. routine checking and recording
6. classifying, filing and related work
7. inspecting and stock checking
8. craftsmanship and related work
9. costuming, tailoring and dressmaking
10. drafting and related work

Hester Evaluation System

Address: Hester Evaluation System
120 South Ashland Boulevard
Chicago, IL 60607

This system consists of a series of separate tests which measure 28 independent ability factors.
These tests include:

1. arm-hand steadiness
2. two-arm coordination
3. manual dexterity
4. finger dexterity
5. wrist-finger speed
6. two-hand coordination
7. machine feeding
8. hand/tool dexterity
9. perceptual accuracy
10. multi-limb coordination
11. perceptual speed
12. oral directions
13. aiming
14. visual-motor reversal
15. fine psychomotor coordination
16. decision speed
17. lifting ability
18. hand strength
19. reaction time
20. response orientation

Micro TOWER Group Vocational Evaluation System

Address: ICD Rehabilitation and Research Center
340 East 24th Street
New York, NY 10010

This system consists of 13 work samples arranged in five aptitude areas including:

Motor Skills

1. electronic connector assembly
2. bottle capping and packing
3. lamp assembly

Spatial

1. blueprint reading
2. graphics illustration

Clerical Perception

1. mail sorting
2. filing
3. zip coding
4. record checking

Verbal Skills

1. message taking
2. want ads comprehension

Numerical Skills

1. payroll computation
2. making change

COMMERCIAL VOCATIONAL EVALUATION SYSTEMS . . . . continued

Singer Graflex Vocational Evaluation System

Address: Singer Education Division
Education Systems
3750 Monroe Avenue
Rochester, NY 14603

This system consists of 20 independent work samples including:

1. sample making
2. bench assembly
3. drafting
4. electrical wiring
5. plumbing and pipefitting
6. carpentry
7. refrigeration, heating and air conditioning
8. soldering and welding
9. office and sales clerk
10. needle trades
11. masonry
12. sheet metal
13. cooking and baking
14. engine service
15. medical service
16. cosmetology
17. data calculation and recording
18. soil testing
19. photo lab technician
20. production machine operator

Testing, Orientation and Work Evaluation in Rehabilitation (TOWER)

Address: ICD Rehabilitation and Research Center
340 East 24th Street
New York, NY 10010

This system categorizes 93 work samples into 14 training areas including:

1. clerical
2. drafting
3. drawing
4. electronics assembly
5. jewelry manufacturing
6. leathergoods
7. machine shop
8. lettering
9. mail clerk
10. optical mechanics
11. pantograph engraving
12. sewing machine operating
13. welding
14. workshop assembly

Systematic Approach to Vocational Education (SAVE)

Address: S.A.V.E. Enterprises
P.O. Box 5871
Rome, GA 30161

This system consists of work samples in 16 worker trait groups including:

1. sorting, inspecting, measuring and related work
2. precision working
3. manipulating
4. signaling and related work
5. feeding–offbearing
6. handling
7. modeling and related work
8. set-up and adjustment
9. driving/operating
10. tending
11. child and adult care
12. miscellaneous personal service work
13. accomodating work
14. miscellaneous customer service work
15. ushering, messenger service and related work
16. animal care

VALPAR Vocational Evaluation System

Address: VALPAR Corporation
3801 34th Street, Suite 105
Tucson, AZ 85713

This system is composed of 18 work samples including:

1. small tools mechanical
2. size discrimination
3. numerical sorting
4. upper extremity range of motion
5. clerical comprehension and aptitude
6. independent problem solving
7. multi–level sorting
8. simulated assembly
9. whole body range of motion
10. tri–level measurement
11. eye–hand–foot coordination
12. soldering and inspection
13. money handling
14. integrated peer performance
15. electrical circuitry and printreading
16. drafting
17. pre–vocational readiness battery
18. conceptual understanding through blind evaluation (C.U.B.E.) (videotaped instruction for hearing impaired individuals is also available)

should identify what will be expected of students who complete the work sample. Considerations in scoring may include: (a) desirable work habits, (b) quality of work produced, (c) quantity of work produced, and (d) time required to complete the work sample.

7. Pre-test the work sample with special needs learners before using it as an evaluation tool in your program. This procedure will help to identify any problems that might arise while you are administering the work sample.

Informal work samples can be used to (a) provide career exploration activities for special needs learners, (b) assess the work habits, coordination, physical capacity, and social skills of special needs learners before they are enrolled in a specific program, (c) assess the abilities and limitations of special needs learners after they have enrolled in a specific program, and (d) evaluate the skills that special needs learners have developed in the vocational program before they exit the program and/or are placed in a job situation. Some examples of informal teacher-made work samples follow.

Sample A: Residential Wiring Program

Objective/Purpose of Work Sample: To observe and evaluate the learner's ability to successfully complete an electrical wiring activity.

Skills Needed to Accomplish the Work Sample Objective: Step-by-step instructions for this activity will be given by audiovisual equipment. Given an activity board, 36″ of 14-gauge electrical wire, 6 electrical terminals, a screwdriver, a 12″ ruler, and wire cutting and crimping pliers, the learner will demonstrate the ability to:

1. Follow verbal directions.
2. Follow visual instructions.
3. Read a 12″ ruler.
4. Operate appropriate hand tools.

Steps Included in the Work Sample:

1. Measure the 14-gauge electrical wire to prescribed lengths using a 12″ ruler.
2. Cut the electrical wire using the appropriate tool.
3. Attach the electrical terminals to the wire ends as directed.
4. Install the different length electrical wires properly on activity boards containing 12-volt batteries, 12-volt electrical motors, and electrical switches.

Scoring Criteria: The skills demonstrated by the learner will be evaluated according to the standards set by the teacher and will be judged after careful observation of task performance and examination of the final product.

Sample B: Consumer Electronics Program

Objective/Purpose of Work Sample: To observe and evaluate the learner's ability to successfully complete an activity in the area of electronics technology (suggested job at exit point, which is the point at which a learner can leave the program to accept entry-level employment, is as an electronic mechanic).

Skills Needed to Accomplish Work Sample Objective: Step-by-step instructions for this activity will be given by audiovisual equipment. The student will be provided with assorted blade and Phillips head screwdrivers, soldering iron, solder, resin solvent, heat sink, needle nose and diagonal pliers, wire brush, extension light, wiping cloth, and safety glasses.

Given an electronic circuit containing a defective capacitor and the tools and equipment listed, the student will replace the capacitor. When the capacitor is replaced there will be no heat damage to the capacitor or circuit and the circuit will function according to design specifications.

Steps Included in the Work Sample:

1. Deenergize equipment.
2. Gain access to capacitor.
3. Desolder capacitor using heat sink as necessary.
4. Clean circuit using solvent and brush.
5. Clip and form leads of capacitor to fit.
6. Install capacitor in circuit, observing polarity or outside foil markings as applicable.
7. Solder capacitor using heat sink as required.
8. Remove heat sink.
9. Clean excess solder.
10. Install equipment covers.
11. Energize circuit.

Scoring Criteria: The skills demonstrated by the learner will be evaluated according to standards set by the instructor and will be judged after careful observation of task performance and examination of the final product.

Sample C: Alterationist
(Occupational Home Economics Program)

Objective/Purpose of Work Sample: To observe and evaluate the learner's ability to successfully complete an alteration activity.

Skills Needed to Accomplish the Work Sample Objective: Given measurements, pattern, scissors, tape measure, sewing guage, yardstick, pins, tissue paper, pencil, transparent tape, and French curve, the student will lengthen or shorten a pattern. The length must coincide with measurements given, allowing for a hem if needed. The grainline or foldline, or both, must be straight, and affected cutting line(s) must be trued with an even taper or curve. The pattern must lie flat and smooth.

Steps Included in the Work Sample:

1. Cut across alteration line.
2. Insert tissue paper under cut edges.
3. Spread the amount needed, making sure that grainline and/or foldline are straight. Pin or tape pattern to tissue paper.
4. True grainline, dart lines, cutting lines and/or foldline.

Shorten:

1. Fold a tuck along alteration line. Tuck should be one-half the amount to be removed. Grainline and/or foldline should remain straight. Pin or tape in place.
2. True cutting line(s) and dart lines (if affected).

Scoring Criteria: The skills demonstrated by the learner will be evaluated according to the standards set by the instructor and will be judged after careful observation of task performance and examination of the final product.

Vocational Program Tryouts

Exploratory experiences in vocational programs can provide vocational education personnel with important assessment information through observing an individual's performance on tasks associated with exit points from the training program. These curriculum-based experiences can provide valuable insight relative to appropriate vocational program placement options for specific learners. Selection of specific vocational programs to be used for tryout experiences for each learner should be based on previous assessment activities, such as occupational exploration, interest inventories, and work samples. Tryouts are one method of providing some concrete information to be used for vocational progam placement.

Usually several vocational programs are selected for tryout experiences. Cooperative planning between vocational teachers and support personnel is essential when planning and implementing this assessment component. One advantage in using this method is that the vocational teacher has an opportunity to work directly with the learner being assessed. This will help the teacher plan appropriately for the learner in the event that final placement is made in the program. Another advantage is that the learner is better prepared to enter the program after establishing a rapport with the instructor confirming a definite interest in the program and building a level of self-confidence about participating in the program. Figure 4.6 provides an example of a vocational program tryout checklist for a student who is exploring a business education program.

Situational Assessment

One of the most widely used vocational evaluation approaches is situational assessment. This assessment technique uses observation skills to record vocational behaviors and work habits that learners exhibit while performing specific work tasks. The work tasks can occur in a simulated environment or in an actual job situation. Learners are observed and evaluated while working in a group setting rather than on an individual basis. In this manner, the evaluator can observe the learner's hands-on skills as well as important interpersonal skills and social behavior. Rating scales and behavior checklists are normally used during situational assessment activities to record work performance.

Brolin (1976) presents several advantages of the situational assessment approach in the vocational assessment process:

1. It simulates a real work situation.
2. It allows the evaluator to observe social and interpersonal relationship behaviors as well as important hands-on skills necessary for the job.
3. It is less time-consuming than formal or informal work samples.
4. It is not expensive to develop activities for this approach.
5. It gives the individuals to be evaluated a chance to adjust to the activity in a more natual work environment than a regular testing situation.
6. It provides an opportunity for several professionals to observe and interpret behavior in a cooperative planning process. These personnel can include teachers, vocational evaluators, and supervisors.

The following description provides an example of how vocational teachers can work cooperatively with other school personnel to develop a situational assessment activity designed to evaluate the work potential of special needs learners enrolled in the program.

Example of a Situational Assessment Activity. Mr. Garland, the vocational teacher, decided to develop a series of activities that could be used to help him evaluate the abilities and work habits of the special needs learners enrolled in his program. He had several planning sessions with the special education teacher and the coordinator for disadvantaged students. During these sessions, it was decided that they would

Figure 4.6

VOCATIONAL PROGRAM TRYOUT CHECKLIST

Instructor____________________ Date____________________

Student Name____

Vocational Program Business Education

Work Sample Area Preparing Filing Systems

Materials Provided: Materials to be filed by subject, materials classified as to subject/name, set of numerically classified materials, manila folders, a typewriter, labels, file cards, A-Z file guides, and a file drawer.

	Completes Task Independently	Completes Task With Limited Supervision	Completes Task With Assistance	Cannot Complete Task
After being provided with specific directions (verbal, written, audiovisual, demonstration, peer tutoring) the student will complete the following tasks: A. Alphabetical Filing System 1. Assemble items to be filed.				
2. Review documents.				
3. Label manila folders as to subject name.				
4. Insert A-Z file guides in file drawer.				
B. Subject Filing System 1. Determine categories into which materials will be filed.				
2. Sort materials into file categories.				
3. Label manila folders as to subjects/categories.				
4. Place labeled folders in drawers.				
5. Type each subject/category onto a file card.				
6. List on each file card cross-references and associated subjects.				
7. File cards.				

Comments:____

Recommendations:___________________________________

all participate in observing the special needs learners perform the work tasks involved in the situational assessment activities. A situational assessment checklist was also developed to record their observations.

The activities developed by Mr. Garland included work tasks that have to be performed in the class. The tools, equipment, and materials used in the class were included in these tasks. It was decided that observations made during these activities would be used as a tool to discover how many basic skills the special needs learners possessed.

Mr. Garland divided the class into small groups. Each group had an opportunity to participate in the situational assessment activities. At the beginning of each activity, Mr. Garland introduced the tools, equipment, and materials to be used for the work tasks. He then explained the procedure for completing the work task.

While the groups performed the operations involved, Mr. Garland, the special education teacher, and the coordinator for disadvantaged students observed the performance of the special needs learners. They recorded their observations on the situational assessment checklist developed for these learners in Mr. Garland's program. The special education teacher incorporated this information into the vocational component of the individualized education program (IEP) for handicapped students enrolled in the program. Likewise, the disadvantaged coordinator incorporated the information in the individualized vocational plan (IVP). Figure 4.7 provides an example of a checklist that could be used to record and evaluate an individual's performance during a situational assessment activity.

Observation information gathered from situational assessment activities can be used to develop appropriate vocational education goals and objectives for special needs learners. This technique can help to identify the specific hands-on skills that the individual can or cannot perform, as well as indicate the work habits and social skills that need improvement.

A COOPERATIVE APPROACH TO VOCATIONAL ASSESSMENT

In the past, vocational evaluation has been conducted mainly by psychologists, evaluators, and rehabilitation personnel. The purpose in many cases was to analyze individual abilities so that specific training programs could then be considered or rejected. This philosophy often limited the appropriate use of evaluation results. Isolated results were used only to determine the work ability of the individual in regard to the vocational development opportunities that could be provided. The current practice of using the vocational assessment process as a method of identifying program modifications to meet the specific abilities and needs of handicapped and disadvantaged learners has increased the need for cooperation from experts in many disciplines. Cooperation among professionals is critical if the evaluation process is to lead to realistic and appropriate vocational and employment opportunities for special needs populations.

Vocational assessment should be a cooperative process involving a variety of professionals and specialists who offer a continuum of services. Personnel who can provide relevant information and expertise for this process include the (a) special education administrator/supervisor, (b) vocational education administrator/supervisor, (c) school/district administrator, (d) vocational evaluator, (e) vocational teacher, (f) vocational/guidance counselor, (g) speech clinician, (h) hearing clinician, (i) psychologist, (j) parent/guardian, (k) physical therapist, (l) occupational therapist, (m) special education and disadvantaged personnel, (n) vocational rehabilitation personnel, (o) medical personnel, (p) prevocational/career education instructors, (q) social worker, and (r) special needs learners.

The number of personnel involved in the cooperative vocational assessment process and the extent of their involvement will depend on a number of factors, including the amount of time allotted for assessment, the availability of these professionals, and the nature or amount of relevant information requested for the evaluation.

Figure 4.8 presents an overview of personnel who could be helpful in providing information or assistance in the vocational assessment process. Figure 4.9 is an example of a vocational assessment checklist.

UTILIZING VOCATIONAL ASSESSMENT FOR SCHOOL-BASED SITUATIONS

Vocational assessment information gathered for school-based purposes is often seen more as a tool for placement in an appropriate vocational program and subsequent planning for an individual student rather than as a tool for actual job placement. Traditionally, rehabilitation-based assessment has related more to specific job-related information as opposed to information that can effectively be used by school-based personnel to place the learner in an appropriate vocational setting, develop an IEP or IPP and plan for the individual's educational program. Although job placement may be the ultimate goal, the primary

Figure 4.7

SITUATIONAL ASSESSMENT CHECKLIST

Student: ______________________________

Date: ______________________________

Observer(s): ______________________________

____

____

Job Task: ______________________________

Observation	Rating		
	Excellent	Satisfactory	Needs Improvement
1. Work habits			
2. Punctuality			
3. Manipulation, coordination, dexterity			
4. Personal grooming/hygiene			
5. Ability to work unsupervised			
6. Ability to work under pressure			
7. Eye-hand coordination			
8. Speed, accuracy and precision			
9. Strength			
10. Consistency in performing task(s)			
11. Work tolerance/endurance			
12. Understanding and following safety rules			
13. Fine motor skills			
14. Gross motor skills			
15. Ability to work with others			
16. Concentration			
17. Reaction to job/task changes			
18. Adjustment to repetitive tasks			
19. Ability to follow directions			
20. Quantity of work performance			
21. Quality of work performance			
22. Work attitude			
23. Initiative			
24. Motivation			
25. Accepts constructive criticism			
26. Accepts constructive authority			
27. Concentration			
28. Communication skills (speech)			

Figure 4.7 continued

Observation	Rating		
	Excellent	Satisfactory	Needs Improvement
29. Completes assigned tasks			
30. Follows directions			
31. Remembers verbal directions			
32. Assumes responsibility			
33. Attention span			
34. Care of equipment and materials			
35. Frustration tolerance			
36. Perseverance			
37. Thoroughness			

Comments:

Recommendations:

Figure 4.8

PERSONNEL WHO MAY BE INVOLVED IN THE COOPERATIVE VOCATIONAL ASSESSMENT PROCESS

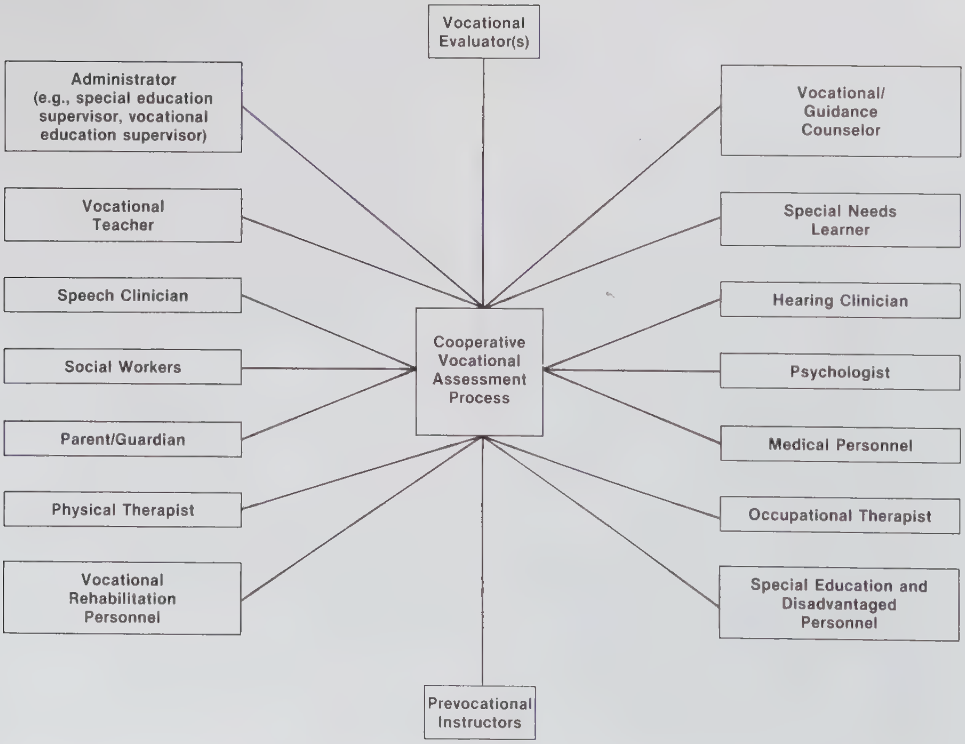

Vocational Evaluator(s)
Administrator (e.g., special education supervisor, vocational education supervisor)
Vocational/ Guidance Counselor
Vocational Teacher
Special Needs Learner
Speech Clinician
Hearing Clinician
Cooperative Vocational Assessment Process
Social Workers
Psychologist
Parent/Guardian
Medical Personnel
Physical Therapist
Occupational Therapist
Vocational Rehabilitation Personnel
Special Education and Disadvantaged Personnel
Prevocational Instructors

Figure 4.9

VOCATIONAL ASSESSMENT CHECKLIST

Student:____

Date of Referral:__________________________________

Individual(s) Involved in Assessment Process:_______________

____

____

Directions: Complete the information for the following components of the vocational assessment process:

1. Referral information (e.g., who made initial referral, eligibility for vocational evaluation):

2. Biographical information (e.g., student record information, academic information, social/family information, vocational/prevocational information, medical information):

3. Student orientation to vocational assessment process (e.g., orientation process, who explained the process, student reaction to orientation, possible problems):

4. Psychometric testing results (e.g., name, date and results of aptitude tests, dexterity tests, interest inventories):

5. Work sample results (e.g., description, date and results of student participation in commercial and/or information work sample activities):

6. Observation information (e.g., social/interpersonal relation skills, work habits, work tolerance):

7. Student interview (e.g., results of one-to-one conference with student after completion of vocational assessment components):

8. Situational Assessment information (e.g., student performance on job related tasks in a vocational program and/or performance on the job):

9. Follow-up information:

10. Recommendations:

objective for vocational assessment used in school situations is to provide diagnoses that can aid in career development and planning for the individual learner.

Information most commonly used from vocational assessment activities for use in vocational program planning include:

1. work behaviors, habits, and attitudes
2. physical skills
3. vocational interests
4. career development background
5. vocational-related academic skills.

Sitlington (1981) states that:

> personnel developing individual vocational programs for students should advise placement for the special needs learner in one of the following types of programs based on information collected from the initial overall assessment: (a) vocational education classroom and/or laboratory; (b) vocational education cooperative education program, including on-the-job experience and related classroom instruction; (c) isolated vocational class or lab, conducted by vocational or special educational personnel specifically for the special needs learner; or (d) isolated cooperative programs, conducted by vocational or special education personnel specifically for the special needs student. The assessment data gathered in these programs should flow directly from the specific information needs of these programs. All of these programs should include an entering assessment as well as continuous assessment.

Assessment information should be used by educational personnel to plan appropriately for the specific learner. Among the most effective uses of assessment information for educational program purposes are:

1. recommendations for prevocational and/or life skills training
2. recommendations for vocational exploration activities (e.g., in vocational classroom/laboratories)
3. recommendations for specific vocational and/or academic program placement
4. specific instructional goals and objectives for the vocational plan being developed
5. identification of student learning style(s) and suggested teaching techniques
6. recommendations for support services necessary for the vocational plan developed for the learner
7. recommendations for curriculum modifications in the vocational program identified for the learner
8. recommendations for appropriate career goal(s) for the learner.

Information gathered from the assessment process should be used to develop vocational plans for the learner. Figure 4.10 provides an example of an Assessment Summary and Program Planning Form, which could help to serve this purpose.

FROM SCHOOL-BASED TO COMMUNITY-BASED ASSESSMENT SITUATIONS

Once preparation has taken place in a vocational program or a decision made to place an individual in a cooperative education program according to the individualized education program (IEP) or individual prescribed program (IPP), the next step in the assessment process should be to complete a job analysis of the specific entry-level job or training site identified for the learner. Job analysis, although time-consuming, can be useful at this time because the conditions that exist in a vocational program may differ from the conditions that exist at the specific job site. Job analysis should be conducted enough in advance of the actual placement so that additional training needed for the particular job site can be provided.

Job Analysis

Analyzing a job is another aspect of the vocational assessment process. This procedure provides information concerning what a worker does, how the job is done, and why it is necessary. When conducting a job analysis, vocational personnel should identify necessary performance requirements for the job. Performance requirements may include (a) the primary tasks involved in completing the job, (b) goods/services produced by the worker, (c) specific knowledge needed for the job, (d) requirements and physical traits needed for the job, (e) specific responsibilities to be assumed by the worker, (f) equipment, machinery, tools, materials, and work aids used on the job, (g) working conditions, and (h) performance standards associated with the job.

Information obtained by a job analysis can be used to develop job samples or work samples for use in assessing vocational potential. The same machinery, equipment, tools, materials, and aids used on the job should be incorporated in the work samples whenever possible. The tasks involved in the work samples as well as the performance standards should be the same as those expected on the job. It is very important that the tasks and performance standards used in the job sample be valid so that a realistic and appropriate assessment of a learner's strengths and weaknesses can be made. Figure 4.11 shows an example of an information sheet that could be used to organize job analysis data.

Figure 4.10

ASSESSMENT SUMMARY AND PROGRAM PLANNING FORM

Student Name____

Date____

GENERAL INFORMATION

I. Expressed Vocational Interest(s) and Inventory Results:

Instrument (e.g., interest inventory, aptitude test)	Summary of Results

II. Commercial Work Sample Experiences

Work Sample	Summary of Performance

III. Informal Work Sample Experiences

Vocational Program Area/Job Title	Work Sample Title/Description	Summary of Performance

IV. Vocational Program Tryout Experiences

Vocational Program	Length of Time	Tasks Completed	Summary of Performance

Figure 4.10 continued

V. Situational Assessment

Assessment Activity (Name, description)	Learner Strengths	Learner Weaknesses

VI. Student Preferred Learning Style(s) ______

VII. Academic Levels: Reading ______

Math ______

Language/Communication ______

Other ______

ANALYSIS OF INFORMATION

I. Learner Strengths or Assets ______

______

II. Learner Weaknesses or Deficiencies ______

______

III. Recommended Placement ______

1. Post Secondary/Community College Program (specify) ______
2. Regular vocational program with minor modifications (specify program) ______
3. Work Experience/Coop Program (specify suggested job site area) ______
4. Further vocational exploration (specify program areas) ______
5. Prevocational skills training ______
6. Community worksite/job tryout (specify) ______

IV. Vocational Program Goals (if placement is recommended) ______

______

V.

Specific Vocational Program Objectives	Suggested Strategies for Delivering Content (Match to Learning Style and Ability Levels)	Curriculum Modification	Support Services/ Assistance Necessary

Additional Comments ______

______

Figure 4.11

JOB ANALYSIS INFORMATION SHEET

1. Job Title:____
2. D.O.T. Code Number:______________________________
3. Occupational Cluster:______________________________
4. Job Description:

5. Tasks to be Performed:

Task/Competency	Performance Standard Required

Comments:

6. Job Knowledge Necessary:

7. Physical Requirements:

8. Worker Traits:

9. Specific Responsibilities to be Assumed by the Worker:

10. Equipment, Machinery, Tools, Materials and Aids Used on the Job:

11. Working Conditions/Work Environment:

12. Goods/Services Produced by the Job:

13. Additional Information:

Sources of Job Analysis Information

1. V-TECS Catalogs. One of the most widespread and valid approaches to competency-based vocational-technical education can be found within the organization of the Vocational-Technical Education Consortium of States (V-TECS). This effort began in Florida in 1970 when the leadership in vocational education decided to use job-related competencies as the basis for all program offerings in vocational education. These competencies were to be identified and verified through a specific process consisting of interviewing and surveying workers in their actual working environment.

A V-TECS catalog is basically a detailed job description of a specific occupation. It answers many questions and deals with the hands-on aspect of an occupation, or the psychomotor skills involved. To date, V-TECS members have produced more than 140 catalogs that provide in-depth analyses of more than 350 job titles as defined by the Dictionary of Occupational Titles (DOT). The catalogs include over 23,000 worker tasks representing input from nearly 16,000 incumbent workers. Many additional catalogs are projected to be added to those currently available.

Contents of a V-TECS Catalog. The general components of each V-TECS catalog are listed below in the order of appearance in the catalog:

1. Table of Contents - The V-TECS catalog refers the reader to specific groups of tasks by duty statements. From this arrangement, a reader is able to see the number of tasks that relate to a certain duty area of an occupation. In addition, the table of contents refers the reader to the appendices of the catalog.

2. Glossary - There are many ‘‘occupational specific’’ terms used in the catalogs and in vocational education. Some teachers may not be familiar with these terms and their meanings in the context in which they are used. Therefore, each catalog contains a section that defines these uncommon terms to ensure that concepts are communicated clearly to the reader.

3. Review of Catalog Development Process - This section of the catalog provides information about the production of the catalog through a cooperative effort by incumbent workers, subject-matter specialists, vocational teachers, administrators, and project directors.

4. Performance Objectives - Each performance objective has the following components, each serving a specific purpose:

A. Duty - A duty is a general category identifying one of the distinct, *major* work activities in an occupation. Each V-TECS catalog is organized so that the reader can easily see how many duties comprise an entire occupation.

B. Task - A task is an observable activity performed by a worker in an occupation. Each task has a starting point and an ending point.

C. Standard of Performance - A standard is defined as the industry-accepted level of performance of a task in a job setting. The statement identifies how well and to what degree a task should be performed. This can be used as a valuable tool in evaluating a student in the instructional setting.

D. Conditions for Performance - The conditions specify the materials, tools, and environmental standards necessary to complete the task at standard performance levels.

E. Source for Standard - The source for the standard of performance may include the consensus of incumbent workers, manufacturer specifications, or professional publications. The standard is based most often, however, on the observations and experiences of the writing team members.

F. Performance Guide - The performance guide is a step-by-step process developed by consensus of the incumbent workers on how to perform a certain task. Each step of the performance guide includes an action verb that identifies the psychomotor activity for the performance of that particular step. Cognitive information may have to be taught prior to teaching one or more steps.

G. Appendices - The appendices of a catalog contain information from different aspects of the developmental process:

- * *Analysis of tools and equipment usage* - a summary of the use of tools and equipment by workers surveyed.
- * *State-of-the-Art-Literature* - the current reference materials used in the research of tasks for the occupational inventory.
- * *Sources of Standards* - the people or groups that provide the information about the level of acceptable performance for each task.

An example of a task from the Shipping and Receiving Worker Catalog is provided in Figure 4.12. Information about V-TECS catalogs may be obtained from:

Vocational Technical Education
Consortium of States
795 Peachtree Street, N.E.
Atlanta, Georgia 30365

Figure 4.12

EXAMPLE OF A V-TECS CATALOG TASK

DUTY: ASSEMBLING, PACKING AND SHIPPING GOODS

PERFORMANCE OBJECTIVE NO. 13

TASK: Load outbound shipment for carrier

STANDARD: All merchandise listed on the bill of lading must be accounted for and must be loaded, without damage to the merchandise or the equipment, in the vehicle. When loaded in the vehicle, heavier items must be placed on the bottom of the stacks and the load must be balanced. The driver, if a common carrier, must sign the bill of lading and return copies to the shipper.

SOURCE FOR STANDARD: Writing team of incumbent workers.

CONDITIONS FOR PERFORMANCE OF TASK:

Ball Point Pen
Bill of Lading
Cart(s)
Chocks
Dock Plate
Gloves
Materials-Handling Equipment
Outbound Shipment
Shipping Log
Vehicle

PERFORMANCE GUIDE:

1. Open shipping dock door.
2. Open and secure, as necessary, trailer door(s).
3. Spot, as necessary, vehicle.
4. Block trailer wheels with chocks.
5. Position and secure dock plate, if necessary.
6. Locate shipment in staging area and move outbound shipment to shipping dock.
7. Count the pieces and compare count with bill of lading:
    a. If count agrees with the bill of lading, go to step 8.
    b. If count does not agree with bill of lading, correct discrepancy and go to step 8.
8. Load shipment:
    a. Place heavier items on floor of trailer and stack lighter items on top.
    b. Balance the load/weight.
9. Have driver sign the bill of lading, if a common carrier. Have driver return shipper copies of the bill of lading.
10. Enter shipment information into shipping log.
11. Remove, if necessary, dock plate.
12. Remove chocks.
13. Close and seal trailer door(s), if necessary.
14. Close and secure shipping dock door.
15. Forward original and copy of bill of lading to designated departments.
16. Clean up work area.

2. Dictionary of Occupational Titles (Dot). The *Dictionary of Occupational Titles* is an inventory of occupations within our economy. It is prepared by the United States Department of Labor. This resource provides information about the physical demands, working conditions, and aptitudes required for a specific job. It also identifies the relationship of the job to people, data, and things. The information is collected through observation of workers and job sites by occupational analysts.

The DOT consists of several volumes of current information about occupations. These volumes are revised periodically. It can be useful in describing the proficiencies and skills required for each job, as well as the relationship between one job and another.

Volume I of the DOT contains definitions of over 35,000 job titles that are arranged alphabetically by title. Each definition contains information about what is done on the job, how the job is done, and why it is done. Specific worker functions and requirements are also included in the definition statement. These definitions should provide the reader with an occupational picture of each job, including the industry/industries in which the job is located, and alternate job titles.

Volume II introduces the classification system used in the DOT. This system combines both an Occupational Group Arrangement Code number and a Worker Trait Arrangement number. Each job in the DOT is identified by a six-digit code number. The first three digits (Occupational Group Arrangement) represent the field of work associated with the job, including the specific occupational category, division, and group. The broad occupational categories are as follows:

0–1 Professional, technical, and managerial occupations
2 Clerical and sales occupations
3 Service
4 Farming, fishery, forestry, and related occupations
5 Processing occupations
6 Machine trade occupations
7 Bench work occupations
8 Structural work occupations
9 Miscellaneous occupations

The last three digits of the code number (Worker Trait Arrangement) indicate the relationship of the job to data, people, and things, in that order. The lower the number is, the higher the relationship is. This information can be helpful in analyzing the qualifications of the job in order to match a learner's abilities and interests to a realistic career objective.

The DOT, therefore, can be a useful tool in the job analysis process as well as a valuable source of information in developing appropriate work samples for use in the vocational assessment process. An example of a job title listed in the DOT follows.

Example of a Job Title Listed in the DOT. 620.281-026 BRAKE REPAIRER (auto. ser.) brake mechanic; brake-repair mechanic; brakeshoe repairer. Repairs and overhauls brake systems in automobiles, buses, trucks, and other automotive vehicles. Pushes handle of hydraulic jack or pushes hoist control to raise vehicle axle. Removes wheels, using wrenches, wheel puller, and sledge hammer. Replaces defective brakeshoe units or attaches new linings to brakeshoes. Measures brakedrum to determine amount of wear, using feeler gauge. Inserts vacuum gauge into power-brake cylinder, starts engine, and reads gauge to detect brake-line leaks. Repairs or replaces leaky brake cylinders. Repairs and replaces defective air compressor in airbrake systems. Replaces wheel on axle and adjusts drumshoe clearance, using wrench. Fills master brake cylinder with brake fluid, pumps brake pedal or uses pressure tank and opens valves on hydraulic brake system to bleed air from brake line. Closes valves and refills master brake cylinder. May be designed according to speciality as BRAKE REPAIRER, AIR (auto. ser.); BRAKE REPAIRER, HYDRAULIC (auto. ser.); BRAKE REPAIRER, BUS (auto. ser.) (U.S. Department of Labor, *Dictionary of Occupational Titles-Fourth Edition,* 1977, p. 537).

The *Dictionary of Occupational Titles* may be ordered from:

Superintendent of Documents
U.S. Department of Labor
U.S. Government Printing Office
Washington, D.C. 20402

3. Occupational Outlook Handbook. The *Occupational Outlook Handbook* is a publication of the United States Department of Labor. This resource provides information concerning more than 850 occupations in a variety of major industries. The industries are grouped according to major divisions in our economy. These divisions include agriculture, mining, and petroleum; construction; manufacturing; transportation, communications and public utilities; wholesale and retail trade; finance, insurance, and real estate services; and government.

The Bureau of Labor Statistics works with the Department of Labor to continuously gather data about occupations and employment trends. This resource describes job opportunities in sales work, professional occupations, craft and service areas, clerical work, managerial and labor positions, and farm occupations.

Every two years a new edition is published with the most current employment data. Specific information provided for each major job include:

1. What the job is like—
   a. Major duties of workers in the occupation
   b. Nature of the work
2. Places of employment—
   a. Number of workers in the occupation
   b. Whether the job is concentrated in a particular industry
   c. Whether the job is concentrated in a specific geographic area
3. Personal qualifications for the job—
   a. Social skills
   b. Motivation
   c. Likes and dislikes
   d. Decision-making abilities
   e. Supervisory skills
4. Training qualifications for the job—
   a. Coordination skills
   b. Manipulation skills
   c. Dexterity skills
5. Educational qualifications for the job—
   a. College education
   b. Postsecondary vocational-technical program
   c. Private vocational education programs
   d. Home-study courses
   e. Government training programs
   f. Training in the armed forces
   g. On-the-job training experiences
   h. Secondary vocational education programs
   i. High school diploma
   j. Licensing
6. Working conditions—
   a. Environment
   b. Hazards
   c. Physical demands
   d. Type of work, including shift and overtime work
7. Earnings—
   a. Wage or salary range
   b. Fringe benefits
   c. Which jobs pay the most
   d. Salaries in different geographic locations
8. Opportunities for advancement
9. Sources of additional information—
   a. Libraries
   b. Guidance personnel
   c. Business and industrial firms
   d. Public employment service
   e. Private employment agencies
   f. Trade unions
   g. Professional organizations
   h. Businessmen's associations

The *Occupational Outlook Handbook* may be ordered from:

Superintendent of Documents
U.S. Department of Documents
U.S. Government Printing Office
Washington, D.C. 20402

4. Community Workforce Survey. A survey of workforce needs in the community can be helpful in collecting job analysis information. The survey of local industries can provide information relating to the types and numbers of available jobs, specific skills required for each job, and working conditions.

A variety of methods can be used to collect community workforce information, including personal interviews, sending survey forms by mail and collecting information by telephone conversations. The survey method selected should take into consideration the size of the community, the number of firms and industries available, and the amount of time to be spent on the survey. The local business and industrial firms to be included in the survey can be obtained from such sources as the Chamber of Commerce, the telephone directory, advisory committees, and community retail merchant groups.

Figure 4.13 provides an example of information that might be useful to include in a community workforce survey. The survey form should be developed to include information that will meet the specific needs of the community, the vocational program and the learners to be served.

Additional Sources of Information

The following resources may be helpful to school-based personnel involved in vocational assessment and program planning.

1. *Classification of Jobs* directly relates the "qualifications profile" to each job listed in the 1977 edition of the DOT. The publication includes four major sections: (a) jobs listed alphabetically by title (with accompanying qualifications profile information); (b) jobs listed by occupational group arrangement; (c) jobs listed according to level of difficulty within categories used in the Department of Labor's *Guide to Occupational Exploration;* and (d) jobs listed in overall order of level of difficulty. In each of the listings, coded

Figure 4.13

COMMUNITY WORKFORCE SURVEY GUIDELINES

1. Source of data information:
   a. Name of firm:____________________________
   b. Address:________________________________
   ____
   c. Phone Number : (   )______________________
   d. Employer(s) providing information (include name and official title):________________________
   ____

2. Overview of employer and business (including number of full-time and part-time employees hired each year):____________
   ____

3. Types and numbers of jobs relating to the vocational program which are available:

Job Title	Number of Available Openings

4. Job description information:

Job Title	Job Description

5. Specific skills required for each job:

Job Title	Specific Skills Required

Figure 4.13 continued

6. List of job tasks frequency of task performance and performance level(s) required:

Job Title	Job Tasks	Frequency of Performance	Performance Level(s) Required

7. Working conditions and environment:

Job Title	Working Conditions/Environment

8. Does your company receive assistance through federal contracts?

__________Yes __________No

9. If yes, do you have an affirmative action program for the handicapped in compliance with Sections 503 and 504 of the Rehabilitation Act of 1973?

__________Yes __________No

qualifications profiles are provided. In conjunction with the DOT, this document is useful in planning and implementing vocational assessment. It may be ordered from:

VDARE Service Bureau
P.O. Box 55
Roswell, Georgia 30077

2. *Project VERT* (Vocational Education Readiness Test) was developed to provide an assessment of some student skills needed for entrance into vocational education programs. Work sample plans include the following vocational programs: plumbing, auto mechanics, masonry, carpentry, home economics (clothing), electrical wiring, welding, and quantity foods. It may be ordered from:

Publications
Research and Curriculum Unit
Mississippi State University
P.O. Drawer DX
Mississippi State, MI 39762

The materials listed in items 3–7 may be ordered from:

Materials Development Center
Stout Vocational Rehabilitation Institute
Hovlid Hall - JSN
University of Wisconsin-Stout
Menomonie, WI 54751

3. *Handbook for Analyzing Jobs* - Presents a structured procedure for conducting a job analysis. Especially useful for those who wish to have a guideline for obtaining detailed, specific information about a job in order to develop evaluation procedures.
4. *Work Sample Manual Format* - Designed to help practitioners write their own work sample manuals in a standardized format.
5. *Introduction to Job Analysis* - Introduces the technique of job analysis and how it may be used in developing job-related work samples and improving individual job placement.
6. *Individual Evaluation Plan* - Stresses importance of individual evaluation planning and provides a master plan of the purposes and objectives of evaluation and a format for the written record of the assessment phase.
7. *Analyzing Work Performance Problems* - Provides information on identifying, analyzing, and understanding individual work performance problems.

SUMMARY

Dahl defines vocational assessment as "a comprehensive process conducted over a period of time, involving a multi-disciplinary team. . . with the purpose of identifying individual characteristics, education, training, and placement needs which provides educators the basis for planning an individual's program. . . " This information should be obtained over a period of time through real-life work situations and/or simulated work activities. Vocational assessment may include information relative to an individual's (a) vocational aptitudes, (b) vocational interests, (c) work habits, (d) socialization skills, (e) personal adjustment skills, (f) work attitudes, and (g) work tolerance. The purpose of the vocational assessment process is to develop a comprehensive profile of the individual's assets and limitations as they relate to vocational education alternatives.

A comprehensive vocational assessment process can (a) assess the vocational potential of learners, (b) provide evaluation information for vocational counseling, (c) identify realistic vocational program or job training situations, (d) provide specific information for appropriate program objectives, and (e) motivate special needs students who have consistently had failure experiences in school.

Work samples simulate tasks that are closely associated with jobs in the labor market. The activities performed in work sample situations should be as realistic as possible. They incorporate the tools and standards associated with the actual job. Work samples are a common component of the vocational assessment process because they emphasize performance skills and approximate work more closely than written tests. These activities provide the observer with an opportunity to observe actual work behavior in a controlled setting. Results of observation lead to direct information rather than biased decisions based on nothing more than personal opinion.

One of the most widely used vocational evaluation approaches is situational assessment. This assessment technique uses observation skills to record vocational behaviors and work habits which learners exhibit while performing specific work tasks. The work tasks can occur in a simulated environment or in an actual job situation. Learners are observed and evaluated while working in a group setting rather than on an individual basis. In this manner, the evaluator can observe hands-on skills as well as important interpersonal skills and social behaviors. Rating scales and behavior checklists are normally used during situational assessment activities to record work performance.

Vocational assessment should be a cooperative process involving a variety of professionals and specialists who offer a continuum of services. Personnel who can provide relevant information and expertise for this process include the (a) special education administrator/supervisor, (b) vocational education administrator/supervisor, (c) school/district administrator, (d) vocational evaluator, (e) vocational teacher, (f) vocational/guidance counselor, (g) speech clinician, (h) hearing clinician, (i) psychologist, (j) parent/guardian, (k) physical therapist, (l) occupational therapist, (m) special education and disadvantaged personnel, (n) vocational rehabilitation personnel, (o) medical personnel, (p) prevocational/career education teachers, (q) social worker, and (r) special needs learners.

Information obtained from vocational assessment activities should not be viewed in isolation. Rather, the results should be interpreted as they relate to other pertinent information. Data concerning physical capacities, attitudes, aptitudes, and interests should be reviewed and analyzed in relationship to such factors as (a) specific entry-level requirements of a vocational program for which the student would be eligible, (b) the individual's preferred mode of learning, conditions for effective learning and general rate of learning, (c) feelings that a student has about entering a particular vocational program, and (d) responses to specific referral questions.

Information collected through vocational assessment experiences should be used for a variety of purposes such as vocational counseling, the cooperative development of the vocational component of an individualized education program (IEP) for handicapped students or an individual prescribed program (IPP) for disadvantaged students and the identification of specific services necessary to increase the level of work of a learner.

SELF ASSESSMENT

1. What is the purpose of vocational assessment?
2. Why is the vocational assessment process important?
3. List some specific information that can be provided as a result of the vocational assessment process.
4. What is the purpose of collecting background information for a specific special needs learner?
5. What information is usually documented on a learner profile? Why is this information important to the vocational assessment process?
6. What are the advantages and disadvantages of using commercial work samples with special needs learners?
7. What factors should be taken into consideration when using commercial work samples results to place special needs learners in vocational programs?
8. Discuss the steps involved in developing an informal work sample.
9. What specific information can be obtained through job analysis that can be used in the vocational assessment process?
10. What information can be provided by the *Dictionary of Occupational Titles* (DOT)? How can this information be helpful in the vocational assessment process?
11. What information can be provided by the *Occupational Outlook Handbook*? How can this information be helpful in the vocational assessment process?
12. What information can be provided by V-TECS catalogs?
13. How can a community manpower survey be useful in providing job analysis information? What specific information can it provide? How can this information be used in the vocational assessment process?
14. What are the advantages and disadvantages of the situational assessment approach to vocational assessment?
15. Why should vocational assessment be a cooperative endeavor?
16. Name personnel who may be involved in the cooperative vocational assessment process.

ASSOCIATED ACTIVITIES

1. Contact personnel in your school or district who are in charge of vocational assessment for handicapped and disadvantaged individuals. These contacts may include special education personnel, guidance counselors, special education staff, and vocational rehabilitation counselors. Discuss the initial referral process. Also ask to see a learner profile form. If none is used, suggest that a form be cooperatively developed for use in the future.
2. Check with vocational evaluation personnel to determine what commercial work sample batteries are used with special needs learners. Are these samples relevant to your program? Have these work samples been normed on the population(s) with which they will be used?
3. Work cooperatively with other staff members to develop informal work samples that can be used with special needs learners enrolled in your program. What specific information will you be looking for? How will this information help you to better plan for these learners in your program?
4. Develop a job analysis information sheet that can be used to collect important information for use in your program.
5. Locate or purchase a copy of the *Dictionary of Occupational Titles* and the *Occupational Outlook Handbook* for future reference.
6. Contact the Vocational-Technical Education Consortium of States, 795 Peachtree Street, N.E., Altanta, Georgia for information about V-TECS catalogs.
7. Develop a community workforce survey that can be used to collect useful information for your program.
8. Develop a situational assessment checklist to use in observing special needs learners participating in work tasks. This checklist should involve other personnel who may also be observing these students.

CASE STUDY: CHRISTINA'S STORY

Christina is a twelfth grade student enrolled in an agribusiness class at the local comprehensive high school. She is interested in working in some area of agriculture or agribusiness and particularly in retail sales. Christina's manual dexterity is limited due to a birth defect affecting both her hands and her left forearm. Her reserved character and poor self-image are no doubt a result of her physical disability.

Christina has received help from an itinerant teacher for the physically disabled and a rehabilitation service counselor. She has also received speech therapy services and activities to improve her self-concept.

Christina realized her interest in agriculture and agribusiness as a result of an informal vocational assessment program that she was involved in during her sophomore year. During this experience she spent several days working in the vocational agriculture laboratory completing informal work samples developed by the vocational agriculture instructor to represent tasks in the agriculture curriculum. While she was occupied with these activities, the vocational agriculture teacher was observing her and documenting her progress on an observation checklist. When she completed these activities the agriculture teacher met with Christina and the itinerant teacher for the physically disabled. They decided that the vocational agriculture progam would be a good placement for her during her junior and senior years.

In the meantime, the itinerant teacher began developing and sharing learner profile information with the vocational agriculture teacher, including educational, academic, medical, social, and prevocational data. The rehabilitation services counselor set up arrangements for a formal vocational assessment battery to be completed.

As a result, Christina was placed in the agribusiness program. The agriculture instructor is pleased with Christina's performance in class. He feels comfortable working with her because of the support they are receiving from the resource personnel. The itinerant teacher visits the classroom each week to work with Christina and the instructor.

During Christina's junior year she demonstrated proficiency in turfgrass production, management, sales and service. During the spring quarter of her junior year, Christina's vocational agriculture teacher secured for her a short-term seasonal position with a local turf maintenance company. Her training in telephone sales techniques in her agribusiness class began to pay off. Christina now works part-time year round. Afternoons are spent answering questions and concerns of customers calling the office. Evenings are devoted to telephone sales. Intelligent, courteous answers to questions and recommendations for the customers' lawns have made Christina the star in this lawn care business.

RELATED ACTIVITY

Daniel is an academically disadvantaged student who has expressed an interest in your program. He has a history of D grades and excessive absences. He is reluctant to participate in group activities and class discussions. He is very good at mathematical problems but has a lower reading level than his peers.

The disadvantaged coordinator has approached you about the possibility of working with Daniel in your program next year. You both agree that the best place to start working together is to collect some assessment information. You are interested in developing a pupil profile and observing Daniel performing an informal work sample. As your contribution you have agreed to do the following:

I. Develop a Pupil Profile form that includes the information that would be important to know about Daniel so that you can adequately understand his abilities and limitations and plan appropriately for him. You are not being asked to *supply* all the information for the Pupil Profile, but merely to organize the kind of information that would be helpful in planning.

II. Describe an informal work sample that could be developed in your classroom, laboratory, or resource room to provide Daniel with an activity that represents your program. In describing the work sample be certain to:

A. identify the tools, equipment, and supplies.
B. task analyze the steps in the activity for Daniel to follow.
C. prepare an observation checklist for use in evaluating Daniel's performance on the work sample.

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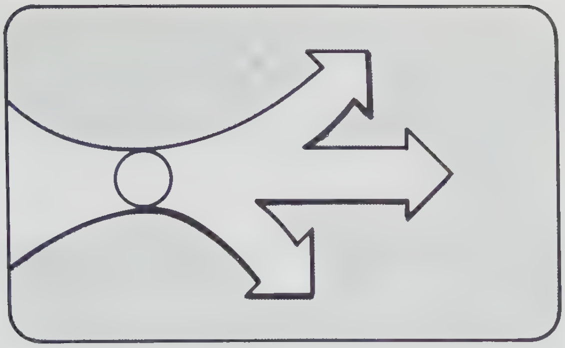


5

One of the most important processes in which vocational teachers must be involved is the preparation of individualized education programs (IEPs) for handicapped learners and individual prescribed programs (IPPs) for disadvantaged learners. The basic purposes of these programs is to (a) identify and provide educational programs for special needs learners, (b) provide a system of accountability for providing educational services to these learners, and (c) to provide an open channel of communication among all personnel working with special needs learners. When special needs learners are mainstreamed into vocational programs, it is important that the vocational teacher and other school and community personnel engage in a team effort to plan individualized education programs for these learners that will enable them to participate in regular educational programs with support as needed.

Planning appropriate IEPs and IPPs through a team effort is extremely important, and the success of the process is often determined by the effort expended in implementing these individualized education programs.

This module presents information about the components of the IEP and IPP and the planning and implementation processes required to make these individualized education programs effective in meeting the needs of special needs learners.

OUTLINE

- Individualized Education Program (IEP)
- Purposes of the IEP
- IEP Team
- IEP Planning Process
- Components of the IEP
  - Present Level of Educational Performance
    - Role of Vocational Education Personnel
  - Annual Goals and Short-term Instructional Objectives
    - Role of Vocational Education Personnel
  - Specific Educational Services To Be Provided
    - Role of Vocational Education Personnel
  - Extent of Participation in Regular Educational Programs/Activities
    - Role of Vocational Education Personnel
  - Criteria for Evaluating Objectives and Schedule for Review
    - Role of Vocational Education Personnel
- Examples of IEP Vocational Components
- Individual Prescribed Program (IPP)
- Case Study
- Implementing the IEP/IPP

Benefits for Vocational Education Personnel Participating in the IEP/IPP Process
Summary
Self Assessment
Associated Activities
Case Study
Related Activity
References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Discuss the importance of the IEP as a management tool in providing appropriate educational experiences for handicapped individuals.
2. Describe the IEP team meeting, the purpose for this meeting, the required participants, and the role of the vocational personnel at this planning session.
3. List the required components of the IEP and describe the function of each component.
4. Develop a complete IEP for a given handicapped learner.
5. Describe why IPPs should be developed for disadvantaged learners.
6. Develop an IPP for a given disadvantaged student.
7. Describe how to implement IEPs/IPPs.
8. Describe the benefits for vocational personnel participating in the IEP/IPP process.

CONCEPTS

Individualized education program (IEP) - Program for handicapped learners planned cooperatively with support personnel.

Individual prescribed program (IPP) - Program for disadvantaged students planned cooperatively with support personnel.

IPP team - A team of individuals including an administrator, student's parents/guardians, teachers (special and classroom), and the student, if appropriate, who meet to plan an IEP or IPP and review student progress.

Pencil-paper test - Written test that is designed primarily to measure a student's level of achievement in the cognitive domain.

Performance test - Test in which special needs learners are required to perform a real or simulated occupational task while their performance is being evaluated by the vocational teacher.

Special education teacher - Special teacher who is employed by the school system to provide instruction and services for handicapped learners.

MODULE 5

INDIVIDUALIZED EDUCATION PROGRAMS FOR SPECIAL NEEDS LEARNERS

INDIVIDUALIZED EDUCATION PROGRAM (IEP)

The Education for All Handicapped Children Act of 1975 (Public Law 94-142) guarantees certain rights for handicapped individuals. One of these guarantees is the requirement that handicapped learners be provided with a free, appropriate education in an environment that is "least restrictive" to their abilities. In order to assure that the educational program for each of these learners is individually prescribed, carefully planned, and frequently monitored, this act requires that a written individualized education program (IEP) be developed and reviewed at least annually for each handicapped individual from ages 3 to 21. The mandate assures that this population will be provided with appropriate special education and related services necessary for them to succeed in the specific educational program designed to meet their needs.

The 1976 Amendments to the Vocational Education Act (Public Act 94-482) provide that handicapped learners be given an opportunity to participate in existing vocational education programs whenever possible. These learners will be placed in vocational education programs according to the goals and objectives set forth in the IEP.

IEP Defined

The IEP is developed around three key concepts. First, it is written to describe the unique educational needs and services of one individual, as opposed to planning instruction for a class or group. Second, it focuses on identifying the educational elements that require specially designed instructional experiences to help the learner meet identified educational goals. Finally, it serves as an action plan of what will be provided to handicapped learners, rather than a guide upon which subsequent learning experiences can be built (Phelps and Batchelor, 1979).

The IEP contains the following basic components:

1. A description of the present levels of educational attainment of the student.
2. A statement of annual goals, including short-term instructional objectives based on instructional tasks for each student, and a description of the extent the learner will be able to participate in regular educational programs and services.
3. A description of the performance criteria and evaluation procedures and schedules required to determine if the student is making satisfactory progress toward accomplishing the instructional objectives leading to goal attainment.

These concepts and components have been arranged into a definition of individualized education programs by Davis and Ward (1978) and reported by Phelps and Batchelor (1979) as follows:

> A written statement for each handicapped child developed in any meeting by (a) a representative of the local educational agency or an intermediate educational unit who shall be qualified to provide, or supervise the provision of, specially designed instruction to meet the unique needs of handicapped children, (b) the teacher, (c) the parent(s) or guardian(s) of such child, and (d) whenever appropriate, such child. The statement shall include: (a) a statement of the present levels of educational performance of such child; (b) a statement of annual goals, including short term instructional objectives; (c) a statement of the specific educational services to be provided to such child, and the extent to which such child will be able to participate in regular educational programs; (d) the projected date for initiation and anticipated duration of such services; and (e) appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether instructional objectives are being achieved.

It should be noted that if a handicapped student is enrolled in a vocational program and requires no special modifications to the program to compensate for the handicap, then the student's participation need only be documented in the extent of participation in regular educational programs/activities section of the IEP. However, if modifications to the regular vocational program are required to compensate for the student's handicap, then an IEP vocational component would need to be completed with statements of annual or intermediate goals; short-term instructional objectives; teaching strategies, methods, activities, and materials; and evaluation criteria, procedures, and results.

PURPOSES OF THE IEP

The basic philosophy behind the IEP is the apparent need to develop a comprehensive plan to guarantee special education programming to all handicapped youth who require these services and to ensure that appropriate and realistic decisions are made regarding educational opportunities that are provided for them. The IEP acts as a management tool to assist educators in scheduling, implementing, and evaluating essential services and activities to meet the needs of these learners.

One important purpose of the IEP is to plan an educational program that is individually prescribed to meet the assessed needs of each handicapped individual. The IEP is a general guide by which personnel can determine the most realistic direction to take in providing an appropriate education for the learner. Goals and objectives help to determine instructional activities that can facilitate student progress.

Another important purpose of the IEP is to provide a system of accountability for providing educational services to handicapped individuals. This accountability can be assured for a number of reasons. First, the IEP identifies specific personnel who will be responsible for implementing the contents of individualized programs. Second, a system for continuously monitoring student progress is provided through the short-term instructional objectives and the criterion levels identified for each one.

A third important purpose of the IEP is to provide for an open channel of communication among all personnel working with the individual. In this manner, a comprehensive, coordinated, and organized plan of action can be developed to meet the needs of the learner. The degree to which this coordinated effort is planned, implemented, and monitored will greatly affect the level of success that the student will experience in achieving the annual goals and short-term objectives developed in the IEP.

Finally, the IEP planning process serves as a model for meeting the individual needs of other students. The process of cooperatively identifying goals, objectives, and activities appropriate for individual students, designing and delivering instructional experiences, and monitoring and evaluating individual student progress are desirable educational services that should be provided for all students.

IEP TEAM

The IEP requires a cooperative planning effort to develop it and cooperative instructional effort to implement and evaluate it. A team of individuals is responsible for developing the IEP. This team must include the following members:

1. An administrator or representative of the local education agency.
2. The student's parents/guardians.
3. The special education teacher and/or other regular classroom teachers who will be responsible for working with the student.
4. The student, if appropriate.

Each of these participants provides a unique element to the development of the IEP. The administrator determines what support services and resources are available in the school or district as well as the local community and can help to ensure that appropriate support services are provided to meet the needs of the student. The administrator will also be instrumental in scheduling these services or obtaining sufficient funds to purchase necessary resources.

The parent or guardian can provide essential background information about the needs of the student. Federal law now recognizes the rights of these parents to be active participants in the educational planning of their handicapped children. Therefore, they must be given an opportunity to be involved in the decision-making and planning process that occurs during the IEP meeting.

The teacher(s) involved in the development of the IEP will be responsible for implementing and monitoring the contents of the individual program. Representatives can include special education teachers as well as regular classroom teachers and vocational teachers who will have the handicapped student in their class or program. These team members can help to interpret diagnostic information, identify the specific educational needs of the learner, develop appropriate goals and objectives to meet these needs, and identify the support services and resources that will be required.

Finally, the student can be involved as a contributing member of the team to develop the IEP. Frequently, students have been eliminated from planning sessions that determine the direction of their educational program. Federal law now guarantees that handicapped students be given an opportunity, when appropriate, to participate in developing their educational program.

The four types of members, school administrator, student's parents/guardians, teachers, and student (when appropriate), must be involved in planning the IEP. There are other school and community personnel who may be involved in planning and implementing the IEP. These are:

1. vocational teachers
2. vocational guidance counselors
3. vocational administrators
4. school psychologists
5. educational evaluators
6. vocational rehabilitation counselor
7. school social worker
8. curriculum specialists
9. media specialists
10. school nurse
11. physical therapists

When handicapped students are mainstreamed in vocational education programs, it is important that vocational education personnel be represented on the IEP team. Special education personnel often do not have the education, background, and preparation required to develop realistic goals and instructional objectives for handicapped learners who are placed in vocational programs. Therefore, it is essential that vocational educators be involved in the IEP process.

Vocational education representatives can include: the vocational administrator and/or vocational supervisor, a vocational counselor, and vocational education teachers who will be responsible for instructing the student. See Figure 5.1.

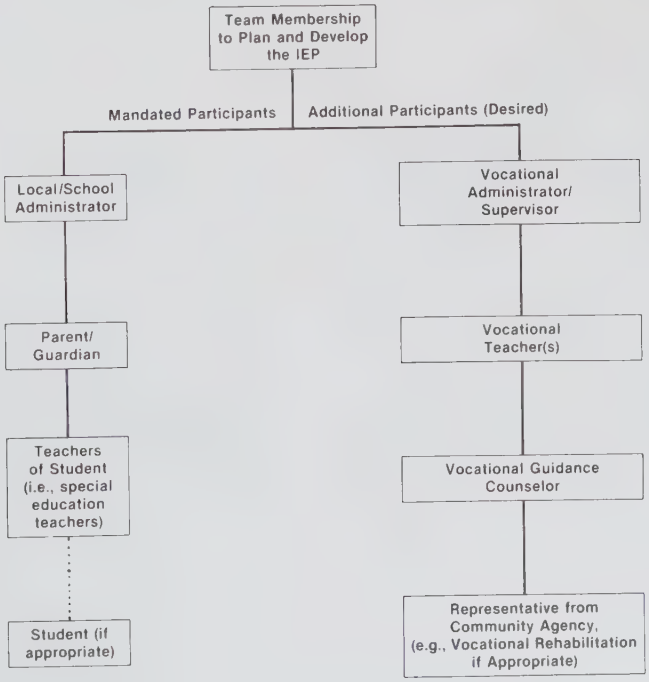
IEP PLANNING PROCESS

The IEP planning process begins when a student is referred as a potentially handicapped learner who may need special education or related services to succeed in one or more instructional programs within a school. Vocational teachers may be involved early in the IEP process by identifying students who are having learning problems in their programs. However, most handicapped learners are identified prior to placement in a vocational program by special education personnel in the school system. Vocational teachers may not recognize student characteristics that may require special services and constitute a handicapped condition. The following list of reoccurring behaviors should be considered when observing students to detect if some students may need referral for further evaluation.

1. Inability to perform normal physical movements in working on tasks.
2. Inability to get along with other students.
3. Problems in perceiving and seeing normal visuals.
4. Inability to hear normal audible sounds.
5. Inability to perform regular mathematical computations.
6. Inability to pay attention to instruction or some situation.

Figure 5.1

SUGGESTED IEP TEAM MEMBERSHIP FOR HANDICAPPED STUDENTS ENROLLED IN A VOCATIONAL EDUCATIONAL PROGRAM


Team Membership to Plan and Develop the IEP
Mandated Participants
Additional Participants (Desired)
Local/School Administrator
Parent/ Guardian
Teachers of Student (i.e., special education teachers)
Student (if appropriate)
Vocational Administrator/ Supervisor
Vocational Teacher(s)
Vocational Guidance Counselor
Representative from Community Agency, (e.g., Vocational Rehabilitation if Appropriate)

7. Inability to listen to what is being said.
8. Inability to read regular class materials.
9. Inability to write legibly.
10. Inability to speak or communicate clearly.

Vocational educators typically play the role of information provider in the early steps of the IEP planning process and become more actively involved in planning the goals, objectives, and learning experiences required to implement the vocational portion of the IEP when students are placed in their vocational programs. Vocational teachers have the responsibility to deliver the vocational component of the IEP and to monitor and evaluate the progress of handicapped learners toward accomplishing their instuctional objectives and goals. Module 6, Interagency Collaboration and Cooperative Planning, presents information on how vocational educators and school and community support personnel can work together to enhance the educational opportunities and services for special needs learners.

Figure 5.2 shows the organization of IEP process components. Figure 5.3 is an example case study of an IEP meeting, and Figure 5.4 shows the various responsibilities of team members.

COMPONENTS OF THE IEP

The format of the IEP varies among school systems; however, each form includes the same basic parts. The essential components of the IEP include (a) a statement of the present level of educational performance, (b) annual goals and short-term instructional objectives, (c) specific educational services to be provided, including the anticipated date they will begin and how long they will be needed, (d) the extent to which the student will participate in regular educational programs/activities, and (e) appropriate performance criteria and evaluation at least once a year to determine whether instructional objectives are being achieved. Figure 5.5 illustrates the mandated components of the IEP.

Each of these essential components will be discussed in this section. Examples will be provided to illustrate information available in an IEP. In addition, the role of the vocational teacher will be reviewed as it relates to each of the necessary elements of the IEP.

Figure 5.2

IEP PROCESS FOR HANDICAPPED STUDENTS

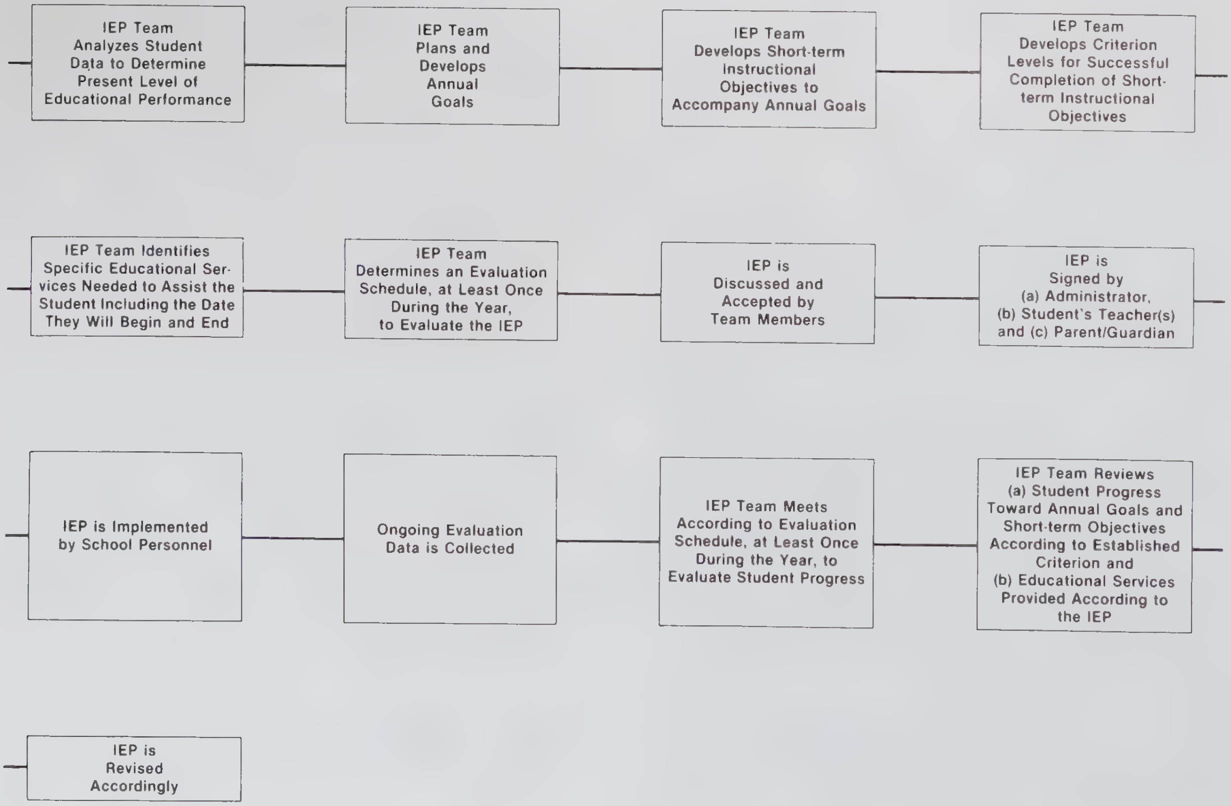

IEP Team Analyzes Student Data to Determine Present Level of Educational Performance
IEP Team Plans and Develops Annual Goals
IEP Team Develops Short-term Instructional Objectives to Accompany Annual Goals
IEP Team Develops Criterion Levels for Successful Completion of Short-term Instructional Objectives
IEP Team Identifies Specific Educational Services Needed to Assist the Student Including the Date They Will Begin and End
IEP Team Determines an Evaluation Schedule, at Least Once During the Year, to Evaluate the IEP
IEP is Discussed and Accepted by Team Members
IEP is Signed by (a) Administrator, (b) Student's Teacher(s) and (c) Parent/Guardian
IEP is Implemented by School Personnel
Ongoing Evaluation Data is Collected
IEP Team Meets According to Evaluation Schedule, at Least Once During the Year, to Evaluate Student Progress
IEP Team Reviews (a) Student Progress Toward Annual Goals and Short-term Objectives According to Established Criterion and (b) Educational Services Provided According to the IEP
IEP is Revised Accordingly

Figure 5.3

CASE STUDY: IEP TEAM MEETING

Mr. Anderson is the construction teacher at Dunkirk High School. In early September he was contacted by Mrs. Proper, the special education teacher, to discuss the possibility of enrolling a student with behavior problems in the construction program during the coming year. They arranged to meet during their lunch hour the following week to discuss the student.

Mr. Anderson learned that the student, Jeremy Bartlett, had participated in a series of career exploration activities the previous year, including a variety of hands-on experiences in the areas of masonry, carpentry and plumbing in the construction program. He remembered that Jeremy had performed very well despite several instances of inappropriate behavior. After completing the career exploration activities, Jeremy expressed a desire to be enrolled in the construction program.

Mrs. Proper then asked Mr. Anderson to attend the IEP team meeting to be held at the end of the week. Mr. Anderson noted that he was free during the period when the team meeting was to be held and agreed to attend. He and Mrs. Proper then discussed his role and responsibilities for this planning session. Mrs. Proper told him that his expertise was needed to help plan realistic goals and objectives for Jeremy in relationship to the construction program. She also emphasized that she was very eager to plan cooperatively in order to provide both Mr. Anderson and Jeremy with appropriate support help.

When Mr. Anderson arrived at the conference room for the IEP team meeting he found several other participants there. Attending the planning session were: (a) special education supervisor, (b) vocational supervisor, (c) Mrs. Proper, (d) Jeremy's parents and (e) Jeremy.

Once the initial introductions had been made the special education supervisor, as a representative of the local school district, brought the meeting to order and explained the tasks that were before them. These tasks included reviewing information about Jeremy and developing an appropriate IEP for the coming year.

The team first examined school records, test data, attendance records, and vocational assessment reports to determine Jeremy's present level of educational performance. Jeremy has been in a special education program for students with behavior problems for the past three years. During this time he has received assistance from Mrs. Proper; she feels that he has made great strides. The team discussed the efforts that had been made during the previous year, especially the progress that Jeremy made in the two regular classes (programs) that he attended.

The next step was to determine the general scope of Jeremy's educational program for the year and to develop appropriate annual goals to give direction to his program. Jeremy and his parents actively participated in this discussion by providing information about his interests and personal goals. One important point of discussion was his desire to participate in the construction program. The vocational assessment information was reviewed along with Mr. Anderson's observations made during the exploration activities. Both sources indicated that he possessed general work habits and attitudes, vocational aptitude and personal interest that would benefit him. It was decided that Jeremy would be enrolled in the construction program, beginning in the carpentry area.

Mr. Anderson then had an opportunity to tell the other team members about the goals and objectives of his program. He was instrumental in developing the annual goals and short term instructional objectives that were appropriate for Jeremy.

Figure 5.3 continued

Criterion levels for successful mastery of goals and objectives were also discussed. Finally, Mr. Anderson had an opportunity to identify the support services and instructional materials that he would need to help Jeremy succeed. Mrs. Proper assured him that cooperative planning would follow throughout the year. They agreed to establish and maintain an open system of communication and sharing as well as a process of periodic evaluation to determine whether the IEP was meeting Jeremy's needs.

After the IEP had been developed and discussed, a date was scheduled at the end of the year for the IEP team to meet and review the IEP.

Mr. Anderson felt more confident about his ability to work with Jeremy in the construction program after the IEP team meeting for the following reasons:

1. he felt that he better understands the problems that Jeremy has relating to his emotional handicap and can deal with situations that might occur in the construction class/laboratory;
2. he felt reassured to know that there will be support help available for Jeremy in the form of special education personnel-cooperative planning will definitely make his job easier;
3. he felt more like a contributing member of the IEP because he had an opportunity to establish realistic annual goals and accompanying objectives for Jeremy to attain in the construction program as opposed to having these goals and objectives developed by individuals who had no knowledge of the T & I area.

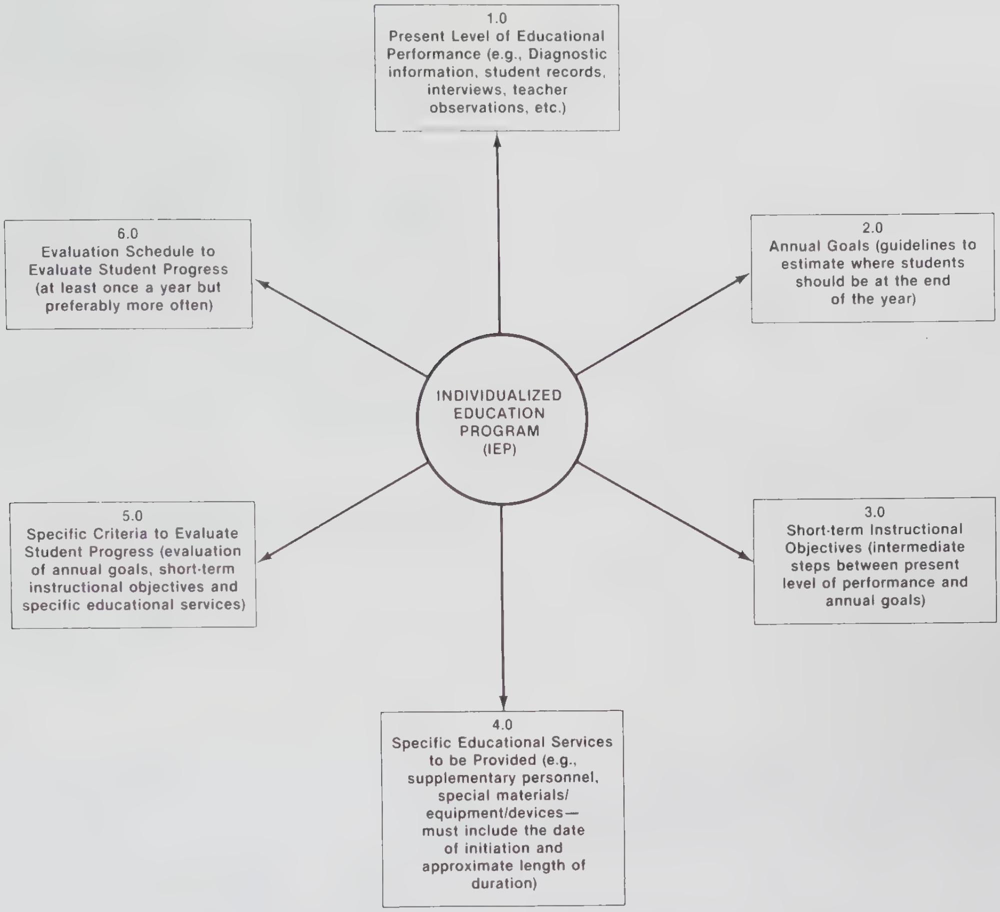
Figure 5.4

RESPONSIBILITIES OF IEP COMMITTEE MEMBERS

Responsibility	Vocational Teacher	Special Education Teacher(s)	Guidance/ Vocational Counselor	Administrator (Vocational Supervisor, Special Education, Local/ School Administrator)	Representive from Community Agency	Parent/ Guardian	Student
Gather background information concerning a particular student	x	x	x	x	x	x	x
Develop appropriate annual goals for participation in the vocational program	x	x		x	x	x	x
Develop realistic short-term instructional objectives to accompany IEP	x	x				x	
Develop spacific criterion levels for successful achievements of short-term objectives	x	x					
Identify support services that will be necessary to aid the student	x	x		x	x	x	
Provide necessary support services		x		x	x		
Develop appropriate lesson plans that will implement the content of the IEP	x	x					
Utilize appropriate teaching techniques	x	x					
Supply remedial assistance		x			x	x	
Periodically assess student progress in achieving the goals and objectives	x	x					
Document student progress for use in evaluating the IEP	x	x					
Participate in the annual review of the IEP	x	x		x	x	x	x

Figure 5.5

MANDATED COMPONENTS OF THE IEP


1.0
Present Level of Educational Performance (e.g., Diagnostic information, student records, interviews, teacher observations, etc.)
2.0
Annual Goals (guidelines to estimate where students should be at the end of the year)
3.0
Short-term Instructional Objectives (intermediate steps between present level of performance and annual goals)
4.0
Specific Educational Services to be Provided (e.g., supplementary personnel, special materials/equipment/devices—must include the date of initiation and approximate length of duration)
5.0
Specific Criteria to Evaluate Student Progress (evaluation of annual goals, short-term instructional objectives and specific educational services)
6.0
Evaluation Schedule to Evaluate Student Progress (at least once a year but preferably more often)
INDIVIDUALIZED EDUCATION PROGRAM (IEP)

Present Level of Educational Performance

A statement of the student's present level of educational performance is the first component that should be present in each IEP. This statement includes performance levels in a variety of educational content areas, including academic achievement, personal-social skills, psychomotor skills, self-help skills, and prevocational and vocational skills.

The information necessary to determine the present level of performance for a particular student is gathered from a variety of sources. These sources include (a) consultations with school personnel, parents, and/or community agencies, (b) interviews with the student, (c) rating scales, checklists, and inventories, (d) standardized tests, (e) criterion-referenced tests, (f) evaluation results available from student records, and (g) evaluations by teachers, counselors, psychologists, a psychometrist, and work sample evaluators.

Certain criteria should be met in gathering assessment information. The information used should come from a variety of tests and batteries. Examples include standardized tests to determine I.Q., vision and hearing tests, performances tests to determine reading and math achievement levels, work sample batteries, aptitude tests, and interest batteries.

Tests should also be nondiscriminatory. For instance, students who speak limited English should be tested in the language spoken in the home so that the results will be a better predictor of the student's abilities and interests. Modifications may have to be made in the testing procedure for a specific handicapped individual. Deaf individuals may need an interpreter to aid them in understanding test items. Visually impaired individuals may need extended time when taking tests.

Finally, information obtained from tests should be recent in order to be helpful in assessing the present level of performance. Therefore, students must be periodically reevaluated so that current performance levels are known to personnel developing the IEP. Currently, reevaluations are required every three years.

Role of Vocational Education Personnel. The vocational teacher should identify information about the student that would be helpful in developing realistic goals, objectives, and necessary services to help the student succeed in the program. Examples of pertinent information relating to the student's present level of educational performance are:

1. Reading level
2. Math level
3. Results of vocational interest and/or aptitude results
4. Results of work sample batteries
5. Previous vocational courses taken
6. Communication skills
7. Gross motor skills
8. Fine motor skills
9. Interpersonal relationship skills
10. Medication that may affect physical and/or behavioral performance
11. Overt behavior problems
12. Strong learning style (i.e., visual, auditory)
13. Ability to work in groups
14. Work experiences
15. Prevocational background
16. Ability to follow safety rules.

Special education can help to provide this information or arrange for appropriate testing that will provide the information. This will assist the vocational teacher in planning an appropriate program for the student.

Vocational education personnel who will be working with handicapped learners can positively contribute to developing a student profile through the identification and establishment of the present level of educational performance. Some examples of responsibilities that can be assumed by vocational personnel to foster a positive cooperative working relationship with special education personnel and to ensure that this portion of the IEP is realistic are as follows:

1. Analyze the prevocational and/or vocational education background of the student to determine the most appropriate program goals for the student.
2. Ascertain the physical accessibility of the vocational classroom and laboratory to determine any necessary architectural and/or equipment modifications.
3. Identify academic, prevocational, and/or skill prerequisites that will help to determine whether the student is prepared to enroll in the vocational program and/or identify necessary services to assist the student in succeeding (i.e., ability to read a ruler, ability to follow safety rules, ability to recognize specific vocational vocabulary terms essential to the vocational program).
4. Identify important vocational program information that will help to determine appropriate goals and objectives relating to the abilities of the student (e.g., proficiency skills necessary for entry-level employment, appropriate instructional areas/units in the vocational program, specific safety standards that must be observed).
5. Assist in providing vocational education exploration activities for handicapped students to assist them in identifying their interests (e.g., informal ''hands-on'' activities, information about jobs that can be obtained after completion of program/course requirements).

Figure 5.6 is a sample first page of an IEP describing the background information and present level of educational performance for a handicapped learner.

Annual Goals and Short-term Instructional Objectives

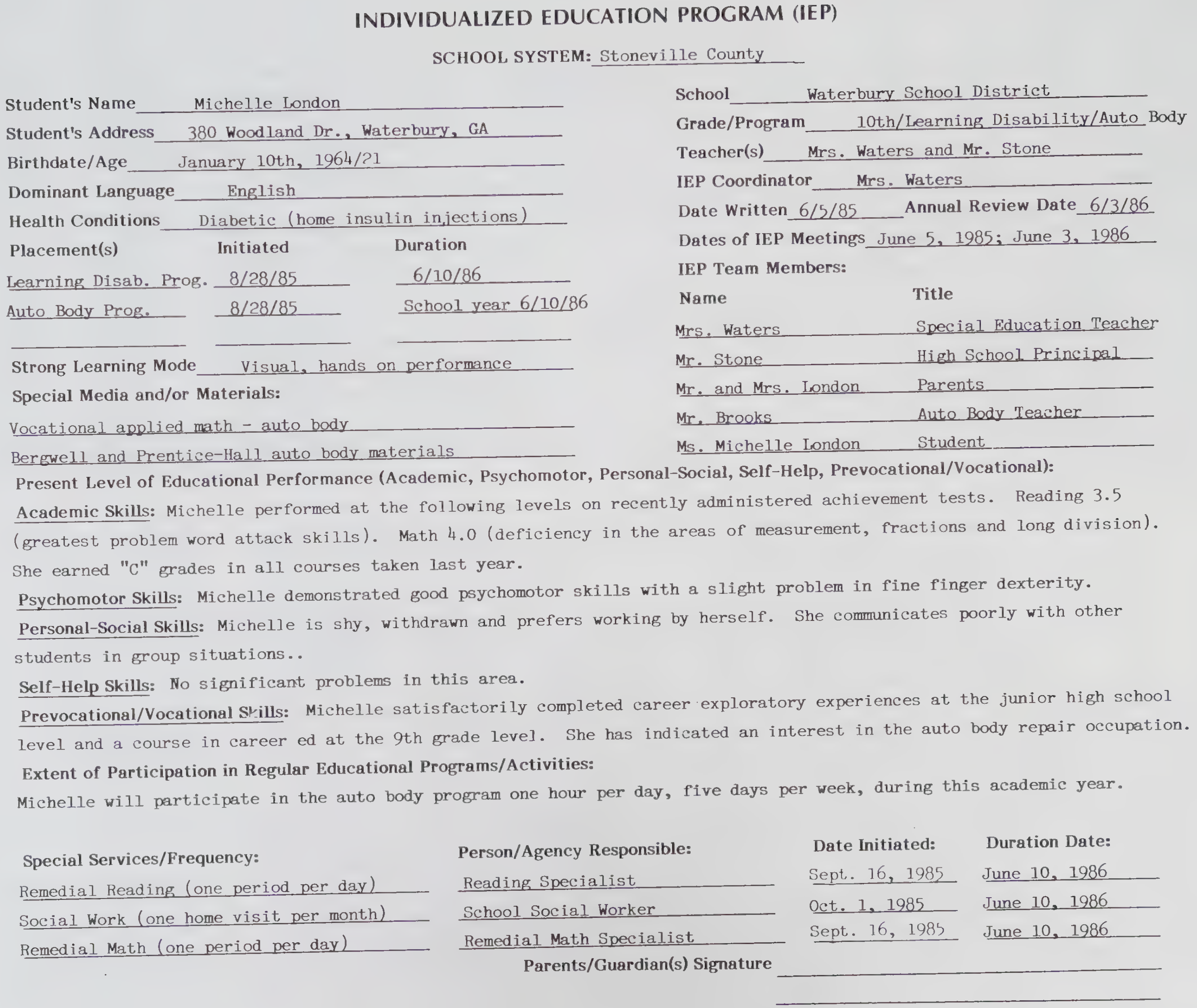
The second component present in each IEP includes statements of annual goals and specific short-term instructional objectives. These goals and objectives should be based on the student's present level of educational performance.

The annual goals indicate the general direction the student will follow during the year and describe the performance to be demonstrated by the student at the end of the year. These goals should be realistic and reasonable in relation to the abilities, performance, and interests of the student. The goals are generally developed in the performance areas addressed in the present level statements (i.e., academic skills, personal-social skills, psychomotor skills, self-help skills, and prevocational and vocational skills). The performance areas and annual goals to be included in the IEP depend on the specific needs of the individual student. The number of goals developed for a specific student depends on the nature and/or severity of the handicapping condition(s).

Example goal statements that might be included in IEPs are:

1. Improve math skills
2. Improve math reasoning
3. Improve vocational math skills
4. Improve written expression
5. Improve reading comprehension
6. Improve reading skills
7. Improve listening skills
8. Improve language/communication skills
9. Improve classroom behavior
10. Improve ability to follow directions
11. Improve work habits skills

Figure 5.6



INDIVIDUALIZED EDUCATION PROGRAM (IEP)

SCHOOL SYSTEM: Stoneville County

Student's Name Michelle London
Student's Address 380 Woodland Dr., Waterbury, GA
Birthdate/Age January 10th, 1964/21
Dominant Language English
Health Conditions Diabetic (home insulin injections)

Placement(s)	**Initiated**	**Duration**
Learning Disab. Prog.	8/28/85	6/10/86
Auto Body Prog.	8/28/85	School year 6/10/86

Strong Learning Mode Visual, hands on performance

Special Media and/or Materials:
Vocational applied math - auto body
Bergwell and Prentice-Hall auto body materials

School Waterbury School District
Grade/Program 10th/Learning Disability/Auto Body
Teacher(s) Mrs. Waters and Mr. Stone
IEP Coordinator Mrs. Waters
Date Written 6/5/85 **Annual Review Date** 6/3/86
Dates of IEP Meetings June 5, 1985; June 3, 1986

IEP Team Members:

Name	**Title**
Mrs. Waters	Special Education Teacher
Mr. Stone	High School Principal
Mr. and Mrs. London	Parents
Mr. Brooks	Auto Body Teacher
Ms. Michelle London	Student

Present Level of Educational Performance (Academic, Psychomotor, Personal-Social, Self-Help, Prevocational/Vocational):

Academic Skills: Michelle performed at the following levels on recently administered achievement tests. Reading 3.5 (greatest problem word attack skills). Math 4.0 (deficiency in the areas of measurement, fractions and long division). She earned "C" grades in all courses taken last year.

Psychomotor Skills: Michelle demonstrated good psychomotor skills with a slight problem in fine finger dexterity.

Personal-Social Skills: Michelle is shy, withdrawn and prefers working by herself. She communicates poorly with other students in group situations..

Self-Help Skills: No significant problems in this area.

Prevocational/Vocational Skills: Michelle satisfactorily completed career exploratory experiences at the junior high school level and a course in career ed at the 9th grade level. She has indicated an interest in the auto body repair occupation.

Extent of Participation in Regular Educational Programs/Activities:
Michelle will participate in the auto body program one hour per day, five days per week, during this academic year.

Special Services/Frequency:	**Person/Agency Responsible:**	**Date Initiated:**	**Duration Date:**
Remedial Reading (one period per day)	Reading Specialist	Sept. 16, 1985	June 10, 1986
Social Work (one home visit per month)	School Social Worker	Oct. 1, 1985	June 10, 1986
Remedial Math (one period per day)	Remedial Math Specialist	Sept. 16, 1985	June 10, 1986

Parents/Guardian(s) Signature

12. Improve employability skills
13. Improve achievement in regular courses
14. Improve interpersonal skills
15. Improve self-help skills
16. Improve physical mobility
17. Improve gross motor skills
18. Improve fine motor skills
19. Improve prevocational skills
20. Develop and/or improve vocational skills
21. Improve on-the-job performance
22. Improve home/school communications
23. Improve involvement in VSO activities
24. Improve self-concept
25. Improve attitude toward school and work.

Annual goals are required for IEPs, but semester or quarter goals can also be developed in the performance areas addressed in the present performance level areas. Annual goals are usually broad statements describing behaviors that may take the entire year to complete. Semester or quarter goals may be somewhat narrower in scope and require fewer instructional objectives to accomplish the goal. For example, a special needs learner may be weak in converting fractions to decimals and decimals to fractions and in converting English and metric measurements. These weaknesses may be corrected over a time period of one semester rather than over an entire year.

Once the destination for a student's educational program has been described in the annual goal and intermediate goals statements, short-term instructional objectives are developed. These objectives represent intermediate steps between the student's present level of educational performance and the annual goals and quarter or semester goals.

These objectives, written in behavioral terms, will act as specific guidelines for accomplishing the established goals. They specify for the student what will be required for successful completion of the goal. Thus, the student can follow a sequential pattern leading to satisfactory completion of established goals.

Role of Vocational Education Personnel. Annual and intermediate goals developed for the student enrolled in a vocational program should be general and comprehensive, should take into consideration the student's present level of educational performance, and should be a realistic estimate of what he/she can accomplish in the specific program during the year, quarter, or semester.

Short-term instructional objectives should be sequential steps that will help the student to progress from the present level of educational performance to the desired achievements stated in the established goals for the vocational program.

Sources that can help vocational personnel in developing goal statements and accompanying objectives include curriculum guides, job-related employability skills lists, current employment prerequisite information obtained from industry, V-TECS catalogs, and competency-based checklists.

Vocational teachers should obtain, organize, and take the following materials to a cooperative IEP planning meeting.

1. program/course descriptions
2. admission requirements/prerequisites
3. program/course outlines
4. lesson plans notebook
5. individualized learning packages notebook
6. tests and evaluation materials
7. VSO activity materials
8. drawing of laboratory and classroom
9. listing of instructional aids and materials
10. copies of basic textbooks and handout materials.

Some examples of responsibilities that can be assumed by vocational personnel to foster a positive cooperative working relationship with special education personnel and to ensure that this portion of the IEP is realistic are as follows:

1. Help to identify an appropriate occupational goal based on the abilities, performance, and interests of the student.

2. Develop appropriate annual goal statement(s) for the vocational program based on the student's abilities, interests, and occupational goal.

3. Develop a sequence of short-term instructional objectives for each annual goal.

4. Identify appropriate criterion levels to determine whether each short-term objective has been met.

5. Revise annual goals and short-term objectives as necessary during the year as a result of observing and evaluating pupil progress.

6. Revise occupational goals, if necessary, as a result of observing and evaluating pupil progress during the year.

Figures 5.7, 5.8, 5.9, and 5.10 are sample pages of annual goal statements and short-term instructional objectives taken from the IEP for a handicapped student who is enrolled in the auto body repair program.

Specific Educational Services to be Provided

Another component in each IEP is the identification of specific educational services that should be provided to assist students in attaining annual goals. These services may include supplementary personnel, special

Figure 5.7

Student Name Michelle Moore
Date IEP was Written June 5, 1985

IEP Coordinator Mr. Roberts

Program(s) Learning Disability, Auto Body Repair
Annual Goal(s) Identify, Remove and Replace Automobile Body and Frame Components **Review Date(s)** 6/3/86
Quarter/Semester Goal(s)
Review Date(s) 1/8/86
Instructional Task(s) Selected tasks listed in curriculum guide for body and frame component replacement

		Evaluation of Instructional Objectives		
Short-Term Instructional Objectives	**Instructional Strategies Methods and Materials**	**Performance Criteria**	**Tests/Evaluation Procedures**	**Evaluation Date/ Results M = Mastery I = Incomplete**
1. Demonstrate an understanding of auto body structures and auto body safety procedures	Read textbook assignments Observe demonstrations Observe filmstrip (Bergwall, "Safety in the Auto Body Shop") Identify different metal configurations and frame construction on a car	Must describe metal configurations and their purpose. Must explain frame shapes and their construction. Must explain low center of gravity (All explanations with 70% accuracy. Must score 100% on safety test)	Written or oral tests on metal configurations and frame shapes Written or oral safety test worksheet assignments	Oct. 28, 1985 - M
2. Name the parts of a vehicle and describe their functions	Read textbook assignments Observe demonstrations on body parts and panels Complete worksheet activities	Must explain inner construction differences between separate frame and body and unitized MacPherson strut system at 70% accuracy Must identify parts at 90% accuracy	Identification test on actual car Oral quiz on body and frame component functions Worksheet assignments	Nov. 11, 1985 - M
3. Remove, replace and align front or rear doors	Read textbook assignments Observe demonstration on door removal and replacement Observe Prentice-Hall, "Auto Body Repair: Metal Work" (Filmstrip #5) Practice door removal and replacement	Must follow correct procedures at 90% accuracy without missing any safety step Door must align with no more than ¼" gap on all sides and be flush with the body	Observation of actual performance using checklist for this task Oral quiz Worksheet assignment	
4. Remove and replace grills and gravel deflectors	Read textbook assignments Observe demonstration on wire connections and grill replacement Observe filmstrip #1 (Bergwall, "Auto Body Tools Explained")	Must follow correct procedures at 90% accuracy without missing a safety step Finished product must be correctly aligned and free from scratches	Observation of actual performance using a checklist for this task Oral quiz on procedures Worksheet assignment	

Figure 5.8

Student Name Michelle Moore
Date IEP was Written June 5, 1985

IEP Coordinator Mrs. Waters

Program(s) Learning Disability, Auto Body
Annual Goal(s) Improve Math Performance in Measurement, Fractions, Multiplication and Long Divis **Review Date(s)** 6/3/86
Quarter/Semester Goal(s)
Review Date(s) 1/8/86
Instructional Task(s) Measurement, Fractions, Multiplication, and Division

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Identify gradients on a ruler or scale	Complete practical workbook exercises Review text and instructional materials Observe demonstrations	Identify gradients of 1/8, 1/4 and 1/2 inch correctly	Teacher produced written test Workbook assignments	Sept. 10, 1985 – M
2. Measure with a ruler or scale	One-on-one instruction on measuring Complete workbook assignments	Measure object length to the nearest 1/8, 1/4 and 1/2 inch with 80% accuracy	Teacher produced performance test Workbook assignments	Oct. 18, 1985 – M
3. Identify fractional parts of objects	Review text and instructional materials Observe fractional shapes of objects Listen to teacher presentation	Identify fractional parts of objects with 85% accuracy	Teacher produced written and real object identification test	Nov. 5, 1985 – M
4. Convert fractions to decimals and decimals to fractions	Listen to teacher presentation Read text assignments Complete workbook practice exercises	Convert fractions to decimals and decimals to fractions with 90% accuracy	Teacher produced test Workbook assignments	Dec. 13, 1985 – I
5. Multiply two-and three-digit numbers by two-digit numbers	Listen to teacher presentation Read text assignments Complete workbook exercises	Complete 10 two-digit by two-digit multiplication problems and 10 three-digit by two-digit multiplication problems with 80% accuracy	Teacher produced test Workbook assignments	
6. Divide four-digit numbers by one- and two-digit numbers	Listen to teacher presentation Read text assignments Complete workbook exercises	Complete 10 four-digit by one-digit division problems and 5 four-digit by two-digit division problems with 80% accuracy	Teacher produced test Workbook assignments	

Figure 5.9

Student Name Michelle Moore
Date IEP was Written June 5, 1985

IEP Coordinator Mr. Waters

Program(s) Learning Disability, Auto Body
Annual Goal(s) Improve Reading Comprehension Skills
Review Date(s) 6/3/86
Quarter/Semester Goal(s)
Review Date(s) 1/8/86
Instructional Task(s) Comprehend and explain written materials

		Evaluation of Instructional Objectives		
Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Identify and state the main ideas of a short story on automobiles	One-on-one teacher/student instruction Practice reading exercises	State main ideas of a reading assignment with 80% accuracy	Teacher selected reading materials Tests	Nov. 15, 1985 - M
2. Make judgements and draw inferences and conclusions in reading assignments	Individual teacher and peer tutoring Practice reading exercises	State judgements, inferences and conclusions of reading materials with 80% accuracy	Teacher selected reading materials Tests	
3. Read and interpret directions	One-on-one teacher/student instruction	Read and explain five sets of written directions on auto body repair with 100% accuracy	Teacher selected auto body repair directions from manufacturers' repair manuals	
4. Increase reading speed	Individual tutoring Practice reading exercises	Increase reading speed by 25%	Teacher selected reading test	

Figure 5.10

Student Name Michelle Moore

Date IEP was Written June 5, 1985

IEP Coordinator Mrs. Waters

Program(s) Learning Disability, Auto Body

Annual Goal(s) Improve Verbal Communication and Personal-Social Skills

Review Date(s) 6/3/86

Quarter/Semester Goal(s) ______

Review Date(s) 1/8/86

Instructional Task(s) ______

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Develop verbal communication skills in group work situations	Read text and instructional materials on communicating in group situations Participate as a committee member in the auto body VICA section social committee	Demonstrate improved communication skills to the teacher's satisfaction	Teacher observations of group situations	
2. Develop personal-social skills	Read text and instructional materials on personal-social skills Role play personal-social skills in classroom activities Practice personal-social skills in VICA social and educational activities	Demonstrate improved personal-social skills to the teacher's satisfaction	Teacher observations of personal-social behaviors in classroom, laboratory and VICA activities	
3. Become a part of the group and participate in group activities	Practice group participation skills as a VICA member serving on several committees and activities	Demonstrate group participation in classroom and VICA activities to the teacher's satisfaction	Teacher observations of group participation in classroom and VICA activities	
4. Develop new friends	Assign students to work closely with one or more peers on the buddy system	Demonstrate closer ties with other students to the teacher's satisfaction	Teacher observations of improving relationships with other students	

equipment/devices/materials, and services from outside agencies. The following are examples of educational services that may be requested in the IEP:

a. Supplementary Personnel
    1. Psychologist or psychometrist (to administer psychological tests, interpret results and/or provide counseling)
    2. Audiologist (to administer and interpret hearing tests and/or provide auditory training)
    3. Social worker
    4. Itinerant teacher (to travel to various schools to assist teachers who have handicapped students in their classes)
    5. Resource room teacher
    6. Speech therapist
    7. Occupational therapist
    8. Physical therapist
    9. Interpreter/reader
    10. Vocational/career counselor
    11. Work-study program/coordinator
    12. Teacher aide/tutor
    13. Remedial math teacher
    14. Remedial reading teacher
    15. Curriculum specialist
    16. Medical consultant (e.g., neurologist, orthopedist, psychiatrist)

b. Special Equipment/Devices/Materials
    1. Prosthetic devices
    2. Equipment modification
    3. Curriculum modifications
    4. Special curriculum guides
    5. Special instructional materials for instruction (e.g., captioned films, large print books, recordings of books)
    6. Transportation services (e.g., revised time schedules, attendants for physically handicapped, assistance for blind students)
    7. Classroom/laboratory modification to assure accessibility
    8. Special equipment (e.g., hardware such as machinery or furniture, braille typewriter, stylus for writing braille)

c. Services from Outside Agencies
    1. Vocational rehabilitation
    2. Job Training Partnership Act (JTPA) programs
    3. Community services (e.g., mental health services, special clinics)
    4. Employment service
    5. Family and Child Services
    6. Department of Human Resources
    7. Advocacy organizations

Once the specific educational services have been selected, the team developing the IEP projects determines when each service will be required. These dates are not binding but merely help the team to plan for the services that a particular student will require. The IEP can be modified whenever the committee deems necessary.

Role of Vocational Education Personnel. Vocational teachers working with handicapped students should assume the same responsibilities that are associated with other students enrolled in vocational programs. Specifically, vocational teachers should (a) assume responsibility for specific instruction in their program, (b) provide relevant hands-on laboratory experiences, and (c) encourage and assist students to become actively involved in vocational student activities.

Some examples of responsibilities that can be assumed by vocational teachers to foster a positive cooperative working relationship with special education personnel and to ensure that this position of the IEP is realistic are as follows:

1. Identify and secure appropriate instructional materials for use in the vocational program in cooperation with special education personnel.
2. Develop and/or modify instructional materials for use in the vocational program in cooperation with special education personnel.
3. Identify and utilize appropriate instructional techniques in cooperation with special education personnel in order to meet the learning needs of the student (e.g., develop task analyses of instructional activities).
4. Arrange for extended time in the vocational program.
5. Identify remedial assistance necessary for the student to succeed in the program.
6. Identify specific equipment or devices necessary for the student to succeed in the program.
7. Identify specific services necessary for the student to succeed in the program.

An example of specific educational services listed in an IEP for a handicapped student is shown in Figure 5.6. Note that the specific educational services to be provided are stated along with the person or agency providing the services, the frequency of the services, and the beginning and estimated ending dates of the services.

Extent of Participation in Regular Educational Programs/Activities

The IEP, in meeting the requirements of this component, must include information regarding the type of regular education program or activity, justification for this type of placement and the amount of time the student can be expected to participate. As the IEP progress of the student is reviewed periodically throughout the year, the extent of participation can be increased or decreased as necessary.

Role of Vocational Education Personnel. Handicapped students have the right to participate in vocational programs and activities to the maximum extent possible. This does not mean that all handicapped students automatically will be enrolled full-time in vocational programs. A range of options is available in placing these learners in existing programs. Vocational educators should work cooperatively with special education personnel to plan the extent to which the student will participate in the program.

This range of placement options is in response to the "least restrictive environment" requirement of Public Law 94-142. The placement option selected should depend on the abilities and interests of the student as well as the nature and severity of the handicap. Further information on placement options can be found in Module 3.

Some examples of responsibilities that can be assumed by vocational educators to ensure that this portion of the IEP is realistic are as follows:

1. Work with special education personnel to match the abilities and interests of the student with an appropriate placement option.
2. Review pupil progress periodically to determine whether the placement is still appropriate.
3. Revise the placement option as necessary based on pupil progress.

Several examples of statements describing the extent to which a handicapped student is to participate in a vocational program are as follows:

1. The student will participate in the cosmetology program for a three-hour period of classroom instruction and a one-hour period of related laboratory instruction three times a week for the first semester of this academic year.
2. The student will participate in the horticulture program for a period of one hour a day, five days a week during this academic year.
3. The student will be enrolled in the business education program for a period of two hours a day during the first quarter of this academic year.
4. The student will participate in the home economics program and related laboratory sessions for a period of one hour, three times a week during this academic year.

Refer to Figure 5.6 for a sample page from an IEP for a handicapped student that contains a description of the extent of participation in regular educational programs/activities.

Criteria for Evaluating Objectives and Schedule for Review

The last component that must be present in each IEP includes appropriate objective criteria to be used at least once a year to evaluate the extent to which the annual goals and short-term instructional objectives have been met. This evaluation should be considered as an opportunity to determine to what extent the IEP is meeting the specific needs of the student. It should provide information to assist in improving this important management tool in order that realistic objectives and appropriate resources are provided.

One method of effectively evaluating student progress during the year is to establish behavioral statements for each short-term instructional objective. These statements describe criterion levels or specific conditions necessary for mastering that objective. A system of recordkeeping and a schedule for evaluation should be developed by all personnel working with handicapped students so that progress can be monitored. The criterion levels established for each objective will help determine the method of recording and evaluating student progress. Some examples include recording specific behaviors during observation and teacher-prepared skill checklists.

Specific educational services provided in the IEP must also be evaluated. Each service should be addressed periodically during the year to determine whether the service is assisting the student to achieve success and whether the service is still necessary. Again, evaluation of educational services should be documented in written form so that progress can be discussed and the IEP can be revised as needed. In cases where necessary services were not provided, justification has to be documented.

Role of Vocational Education Personnel. In order to positively contribute to the annual IEP review procedure, the vocational teacher should develop a system to evaluate and record student progress during the year. This can be accomplished by monitoring the specific criteria developed for the short-term objectives. Some form of written data should be maintained.

If short-term objectives have not been met, the reason(s) for the failure should be discussed by all the participants at the IEP review meeting. Along with this, the specific services provided for the student should be reviewed to determine whether they were adequate. This annual review process will assist the IEP team in planning future goals and objectives that are realistic.

Some examples of responsibilities that can be assumed by vocational personnel to ensure that this portion of the IEP is realistic are:

1. Analyze and record student performance relating to short-term objectives according to specific criteria established.
2. Establish continuous evaluation procedures to provide feedback relative to student progress (e.g., proficiency profiles, activity checklists).
3. Actively participate in and contribute to review conferences on student progress and the adequacy and effectiveness of support services and programs.
4. Assist special education personnel in developing a profile of the student's strengths and weaknesses.
5. Utilize evaluation feedback as a management tool to revise goals, objectives, and services to meet the needs of the student.

Several examples of statements describing criteria specifications that can be used by vocational teachers to evaluate student progress in meeting the short-term instructional objectives and, ultimately, the intermediate and annual goals are:

1. The student will score a minimum of 85% correct answers on a written review test.
2. The student will score a minimum of 90% correct answers on an oral review test.
3. The student will remain on tasks for a minimum 90% of the time spent in the vocational classroom/laboratory.
4. The student will demonstrate proficiency on the stated task according to the criterion specifications established by the manufacturer.
5. The student will perform the assigned laboratory task with a minimum accuracy level of 95% as evaluated by the daily observation of the vocational teacher.
6. The student will meet the specific criterion on a teacher-developed checklist with at least the minimum level of accuracy (e.g., 85% accuracy, 90% accuracy).

Refer back to Figures 5.7, 5.8, 5.9, and 5.10 for sample performance criteria, test/evaluation procedures, and evaluation record as part of the pages of a handicapped learner's IEP.

EXAMPLES OF IEP VOCATIONAL COMPONENTS

To illustrate the development of the vocational component of the IEP, the next section will provide a case history describing background and current information for a handicapped student followed by a sample IEP with vocational components in each vocational service area (Figures 5.11, 5.11a, 5.11b, 5.11c, 5.11d, 5.11e, 5.11f, and 5.11g). This should help the reader to see how an IEP could be developed for this specific handicapped learner if she were to enroll in any vocational program area.

Joyce is a 17-year-old student in the eleventh grade. She is in a special education class for emotionally disturbed students. She has been in a special education program since fourth grade. The initial referral indicated low academic functioning and social problems. She was referred to as an "extreme outcast in the classroom." She was a loner and was rejected by her peers. Her second evaluation showed that she was functioning well academically, but problems of peer interaction persisted.

Her current standardized test scores are:

Verbal Range	90 (average)
Performance Range	92 (average)
Full Scale Range	90 (average) (Stanford–Binet)

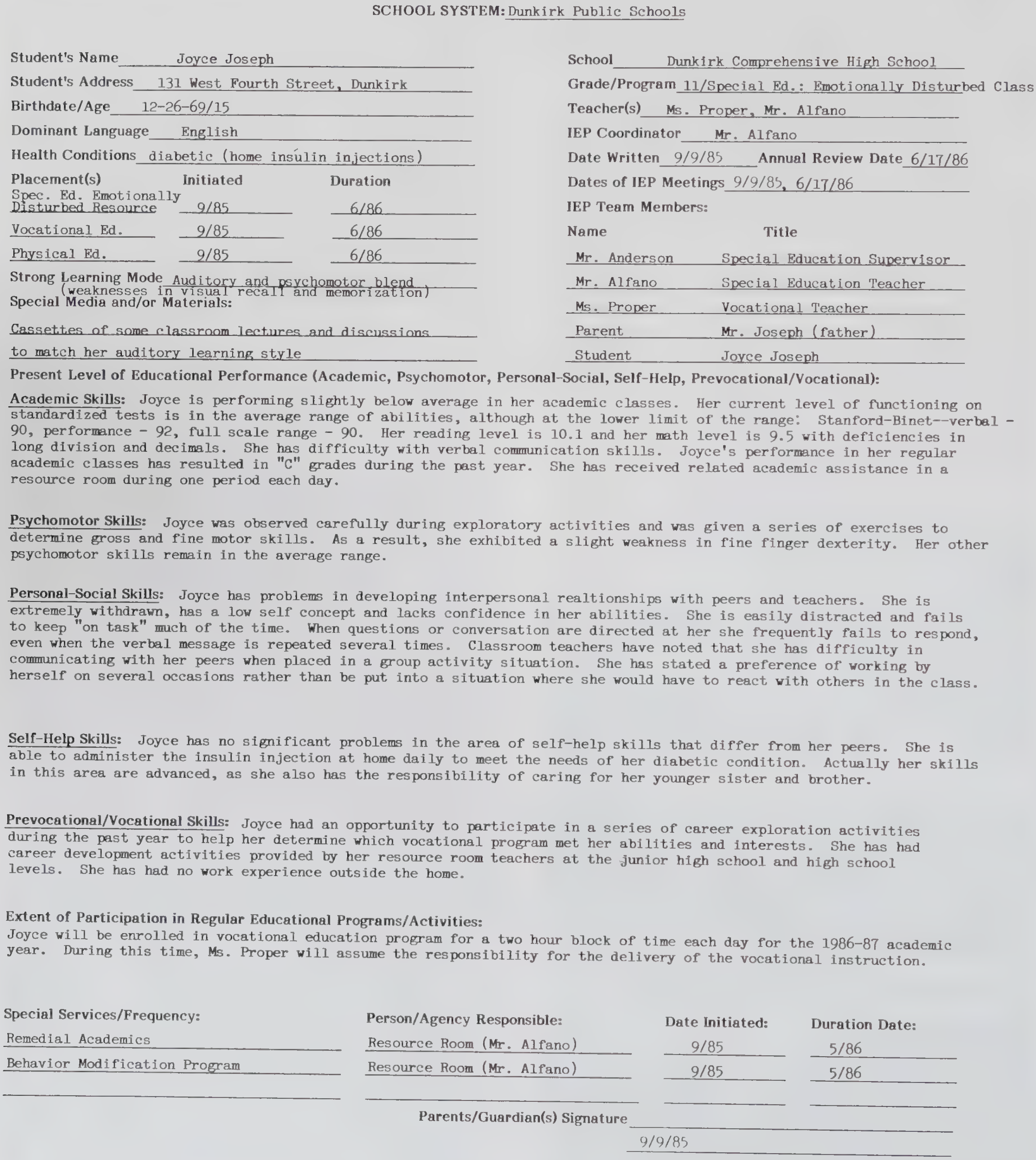
Her current level of intellectual functioning is in the average range, although at the lower end of the range. Weaknesses were found in her level of general information and her immediate visual memory as assessed by her speed and accuracy in learning meaningful symbols. These abilities were found to be in the borderline deficient range. Joyce's problem has been primarily an inability to relate well to peers.

Joyce has problems in developing interpersonal relationships with peers and teachers. She is extremely withdrawn, has a low self-concept, and lacks confidence in her abilities. She is easily distracted and fails to keep "on task" much of the time. When directing questions or conversation to her, she frequently fails to respond, even when the verbal message is repeated several times. She has stated a preference of working by herself on several occasions rather than being put into a situation where she would have to react with others in the class. Joyce is a diabetic and must receive daily injections of insulin to control this condition.

Joyce is the oldest of three children. Her mother died in 1981. Her father works long hours and leaves the three children at home alone. She has had to take much of the responsibility of caring for a younger sister and brother and does most of the cooking and housework. During her most recent evaluation, it was determined that she was getting along much better academically and socially. Interaction with teachers and peers had shown decided improvement. It was revealed that her father was opposed to her desire to date and there was friction with her father over her wanting to date. She indicated that there were no teenagers for her to associate with where the family lives and she seemed to long for peer companionship.

Figure 5.11

VOCATIONAL COMPONENT OF INDIVIDUALIZED EDUCATION PROGRAM (IEP)



SCHOOL SYSTEM: Dunkirk Public Schools

Student's Name Joyce Joseph
Student's Address 131 West Fourth Street, Dunkirk
Birthdate/Age 12-26-69/15
Dominant Language English
Health Conditions diabetic (home insulin injections)

Placement(s)	**Initiated**	**Duration**
Spec. Ed. Emotionally Disturbed Resource	9/85	6/86
Vocational Ed.	9/85	6/86
Physical Ed.	9/85	6/86

Strong Learning Mode Auditory and psychomotor blend (weaknesses in visual recall and memorization)
Special Media and/or Materials:
Cassettes of some classroom lectures and discussions
to match her auditory learning style

School Dunkirk Comprehensive High School
Grade/Program 11/Special Ed.: Emotionally Disturbed Class
Teacher(s) Ms. Proper, Mr. Alfano
IEP Coordinator Mr. Alfano
Date Written 9/9/85 **Annual Review Date** 6/17/86
Dates of IEP Meetings 9/9/85, 6/17/86
IEP Team Members:

Name	**Title**
Mr. Anderson	Special Education Supervisor
Mr. Alfano	Special Education Teacher
Ms. Proper	Vocational Teacher
Parent	Mr. Joseph (father)
Student	Joyce Joseph

Present Level of Educational Performance (Academic, Psychomotor, Personal-Social, Self-Help, Prevocational/Vocational):

Academic Skills: Joyce is performing slightly below average in her academic classes. Her current level of functioning on standardized tests is in the average range of abilities, although at the lower limit of the range: Stanford-Binet--verbal - 90, performance - 92, full scale range - 90. Her reading level is 10.1 and her math level is 9.5 with deficiencies in long division and decimals. She has difficulty with verbal communication skills. Joyce's performance in her regular academic classes has resulted in "C" grades during the past year. She has received related academic assistance in a resource room during one period each day.

Psychomotor Skills: Joyce was observed carefully during exploratory activities and was given a series of exercises to determine gross and fine motor skills. As a result, she exhibited a slight weakness in fine finger dexterity. Her other psychomotor skills remain in the average range.

Personal-Social Skills: Joyce has problems in developing interpersonal realtionships with peers and teachers. She is extremely withdrawn, has a low self concept and lacks confidence in her abilities. She is easily distracted and fails to keep "on task" much of the time. When questions or conversation are directed at her she frequently fails to respond, even when the verbal message is repeated several times. Classroom teachers have noted that she has difficulty in communicating with her peers when placed in a group activity situation. She has stated a preference of working by herself on several occasions rather than be put into a situation where she would have to react with others in the class.

Self-Help Skills: Joyce has no significant problems in the area of self-help skills that differ from her peers. She is able to administer the insulin injection at home daily to meet the needs of her diabetic condition. Actually her skills in this area are advanced, as she also has the responsibility of caring for her younger sister and brother.

Prevocational/Vocational Skills: Joyce had an opportunity to participate in a series of career exploration activities during the past year to help her determine which vocational program met her abilities and interests. She has had career development activities provided by her resource room teachers at the junior high school and high school levels. She has had no work experience outside the home.

Extent of Participation in Regular Educational Programs/Activities:
Joyce will be enrolled in vocational education program for a two hour block of time each day for the 1986-87 academic year. During this time, Ms. Proper will assume the responsibility for the delivery of the vocational instruction.

Special Services/Frequency:	**Person/Agency Responsible:**	**Date Initiated:**	**Duration Date:**
Remedial Academics	Resource Room (Mr. Alfano)	9/85	5/86
Behavior Modification Program	Resource Room (Mr. Alfano)	9/85	5/86

Parents/Guardian(s) Signature
9/9/85

Figure 5.11a

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Special Ed., Business Ed., Physical Ed.

Annual Goal(s) Develop basic clerical skills

Review Date(s) 6/17/86

Quarter/Semester Goal(s) Develop receptionist skills

Review Date(s) 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Perform receptionist activities

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Given a business office situation, greet visitors in a businesslike manner	a. Assign textbook readings on greeting visitors and callers b. Provide a lecture on greeting callers and visitors supported with overhead transparancies c. Assign Joyce and a capable student to practice greeting activities	Nine out of 11 checklist items must be satisfactorily demonstrated Score at least 80% on quiz for this lesson	Simulated performance test on greeting visitors using checklists Written quiz on greeting callers and visitors	Sept. 23, 1985 - M
2. Given an incoming call, answer the telephone correctly	a. Assign textbook readings on assisting callers b. Provide a lecture on assisting callers supported by visuals c. Role play a situation on assisting callers d. Hand out telephone company materials	All items on the incoming call checklist must receive a satisfactory rating Score at least 70% on quiz for this lesson	Simulated performance test on assisting callers using checklists Written quiz on assisting callers	Oct. 4, 1985 - M

Figure 5.11b

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Agricultural Education, Special Education

Annual Goal(s) Develop basic competencies in poultry production Review Date(s) 6/17/86

Quarter/Semester Goal(s) Introduction to poultry production Review Date(s) 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Orientation to poultry industry, financing poultry production

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Recognize the scope and economic importance of poultry production at local, area, state and national levels	a. Provide an illustrated talk on the economic importance of poultry production b. Divide the class into two groups and assign them to the task of determining to what extent poultry is grown in their community and region and/or what percent of total farm income in the state is attributed to poultry production	a. Minimum score of 75% on pencil-paper test on poultry economics b. Minimum score of 75% on group assignments	a. Pencil-paper test on economic impact of poultry production b. Group assignments	Oct. 3, 1985 – M
2. Explore career opportunities in the poultry industry	a. Assign text readings on career opportunities b. Invite a speaker from the local or state poultry industry to discuss career opportunities c. Provide a class presentation, followed by discussion, on career opportunities in the local area and in the state in the poultry industry	a. Minimum score of 75% on student developed list of career opportunities in poultry industry	Assignment to develop a list of career opportunities from local and state information on the poultry industry	Nov. 22, 1985 – M

Figure 5.11c

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Distributive Education, Special Education, P.E.

Annual Goal(s) Develop basic skills in personal selling

Review Date(s) 6/17/86

Quarter/Semester Goal(s) Develop skills in computing sales forms and operating a cash register/terminal

Review Date(s) 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Complete sales forms and closing mechanics, operate a cash register/terminal and handle money

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Given a business situation with appropriate forms and materials, complete sales forms and closing mechanics for a customer's purchases	a. Assign text assignments on Fundamentals of Selling pp. 363-366, Selling Principles and Practices pp. 113-132 b. Provide an illustrated lecture on the outline topics for this lesson c. Provide a demonstration on completing sales forms and closing mechanics in a simulated experience Equipment: credit card imprinter, examples of sales forms, electronic calculator	Complete sales form and closing mechanics performance test with 90% accuracy Score at least 80% on a quiz for this lesson Score at least 70% on an end of the unit examination	Develop a performance test on a simulated customer purchase involving sales forms and closing mechanics Develop and administer a quiz on completing sales forms and closing mechanics	Oct. 15, 1985 - M
2. Given a business situation with appropriate terminal equipment and materials, complete the following: a. record a sale b. record an exchange or refund c. make change with a customer with no sale	a. Assign text readings on Fundamentals of Selling pp. 323-326, Selling-Helping Customers Buy pp. 297-322 b. Provide lectures/demonstrations on register/terminal operations c. Assign Joyce and peer students to practice register/terminal operations Equipment: cash register/terminal, adding machine	Complete performance tests on (1) opening the register/terminal, (2) register/terminal transactions, and (3) closing the register/terminal with 100% accuracy Score at least 70% on an end of the unit examination	Develop and administer performance test on (1) opening register/terminal (2) transacting business using the register/terminal, and (3) closing the register/terminal Administer an end of unit test	

Figure 5.11d

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Home Economics, Special Education

Annual Goal(s) Develop basic competencies in clothing and textiles **Review Date(s)** 6/17/86

Quarter/Semester Goal(s) Selecting individual and family clothing **Review Date(s)** 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Selecting individual and family clothing and providing clothing for the individual and family

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Make decisions concerning time, money and other resources available for clothing	a. Assign text and reference book readings for this lesson b. Show filmstrip on "How to Buy Clothes" c. Provide illustrated lecture on making decisions about buying clothing d. Assign Joyce and a peer student the task of developing a case study of a family with emphasis on making decisions regarding clothing e. Assign Joyce the task of planning her wardrobe and estimating the cost at budget and regular prices which is a FHA home degree project	a. Minimum score of 70% on pencil-paper test b. Minimum score of 70% on solutions to case study c. Minimum score of 70% on list of advantages/disadvantages of making clothes compared to buying them d. Minimum score of 80% on on home degree project report	a. Pencil-paper test on shopping b. Case study assignment c. Assignment on advantages/disadvantages of making/buying clothing d. Project report on personal wardrobe	Oct. 21, 1985 – M
2. Analyze relationship between quality of workmanship and prices for clothing	a. Assign reading for this lesson b. Show a film on the "Tale of a Shirt" c. Provide an illustrated lecture on the keypoints of this lesson d. Assign student the task of bringing garments from home to compare workmanship	a. Minimum score of 70% on pencil-paper test b. Minimum score of 80% on performance test for this lesson c. Minimum score of 80% on bulletin board group project	a. Pencil-paper test on qualities of garment workmanship and prices b. Require Joyce to analyze both homemade and ready-made garments in a performance test	Nov. 12, 1985 – M

Figure 5.11e

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Health Occupations, Special Education, P.E.

Annual Goal(s) Develop basic competencies required for nurse aide **Review Date(s)** 6/17/86

Quarter/Semester Goal(s) Measure vital signs

Review Date(s) 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Take temperature, pulse, respiration and blood pressure

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Provide a patient and necessary equipment, take the patient's oral, acillary and/or rectal temperature	a. Assign textbook readings b. Provide an illustrated talk/ discussion on measuring body temperature c. Show filmstrip on "Temperature" available from Trainex Corp. d. Demonstrate how to measure body temperature (three methods) e. Require Joyce to work with a peer partner to practice taking temperature reading on live student and mannequin	a. Minimum score of 70% on written quiz b. Minimum performance score of 90% on each temperature measurement demonstration c. Minimum subscore of 70% on unit test item dealing with temperature	a. Written quiz on taking body temperature b. Evaluate performance on each method of taking temperature using the checklist for each c. Test items included in unit test	Sept. 30, 1985 - M
2. Provide a patient and equipment, determine the rate, volume and rhythm of the patient's pulse	a. Assign textbook readings b. Provide illustrated talk/ discussion on pulse rate, strength and rhythm c. Show Trainex filmstrip on pulse d. Demonstrate how to take pulse e. Have Joyce work with a student partner to practice taking pulse readings	a. Minimum subscore of 70% on items dealing with pulse on unit test b. Score 100% on performance test (taking pulse)	a. Test items included in unit test b. Performance test on taking a patient's pulse using checklist on this task	Oct. 28, 1985 - M

Figure 5.11f

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph

Date IEP was Written 9/9/85

IEP Coordinator Mr. Alfano

Program(s) Industrial Arts, Special Education, P.E.

Annual Goal(s) Develop basic competencies in visual communication drafting Review Date(s) 6/17/86

Quarter/Semester Goal(s) ______

Review Date(s) 11/28/85, 1/21/86, 4/1/86

Instructional Task(s) Sketching and basic drafting tasks

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Given drafting instruments, equipment and materials, identify each by proper name and descriptive function	a. Present an overview of the drafting unit and why drafting is the language of industry b. Assign work stations and equipment to students c. Name and demonstrate the use of each equipment item d. Describe the standard drafting format e. Assign students the task of drawing a standard border and title block f. Assign reading assignments for next lesson	a. Minimum score of 75% on drafting equipment test b. Minimum score of 75% on preparing drafting paper format	Actual drafting equipment and materials identification test Drafting paper border and title block assignment	Sept. 13, 1985 – M
2. Given drafting equipment and an assignment, draw lines and curves and perform measurement and instrument exercises	a. Review the divisions on a standard English role b. Demonstrate measuring techniques c. Demonstrate techniques for drawing uniform lines d. Assign Joyce and other students exercises for this lesson	Minimum score of 75% on measurement exercises	Measurement exercises assignment	Sept. 23, 1985 – M

Figure 5.11g

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Joyce Joseph
Date IEP was Written 9/9/85
IEP Coordinator Mr. Alfano

Program(s) Small Engine Repair, Special Education, P.E.
Annual Goal(s) Develop basic competencies in small engine repair Review Date(s) 6/17/86
Quarter/Semester Goal(s) Service, maintain and repair starting systems Review Date(s) 11/28/85, 1/21/86, 4/1/86
Instructional Task(s) Inspecting and repairing the rope type, wind-up and electric-type starting systems

Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Evaluation of Instructional Objectives		
		Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Given a small engine with a rope-rewind starter, remove the starter assembly and replace the starter spring and rope to manufacturer's specifications	a. Assign textbook readings on rope-type starting systems b. Provide illustrated lecture on rope-type starting systems c. Show Briggs & Stratton "Disassemble-Inspect-Reassemble" slide set 7184 d. Demonstrate how to service rope-type starting systems e. Assign Joyce and a peer student the task of servicing a rope-type starting system f. Assign AAVIM student workbook exercise	a. Minimum score of 70% on written quiz on this lesson b. Minimum score of 80% on performance test for this task using checklist c. Minimum score of 70% on worksheet exercise d. Minimum score of 70% on end of unit test	a. Written quiz on servicing rope-type starter systems b. Performance test on inspecting and repairing rope-type starting systems c. AAVIM workbook assignment for this task d. Rope-type starting system test items included on unit test	Sept. 16, 1985 - M
2. Given a small engine with a wind-up starter, remove the starter assembly and replace components necessary to restore to manufacturer's specifications	a. Assign textbook readings b. Provide class lecture on wind-up starting systems c. Demonstrate how to repair wind-up starting systems d. Assign Joyce and a peer student the task of repairing a wind-up starting system	a. Minimum score of 80% on performance test for this lesson b. Minimum score of 70% on AAVIM workbook exercise c. Minimum score of 70% on end of unit test	a. Performance test on repairing wind-up types of starting systems b. AAVIM workbook exercise for this lesson c. Wind-up starting system test items on end of unit test	Oct. 30, 1985 - M

She reported problems at home because of her responsiblities for her younger sister and brother and the housework. Joyce has no employment history. She would like very much to be able to have a part-time job to earn her own spending money, but indicated her father would not allow her to work until the younger sister and brother were able to care for themselves and handle the household duties.

This student has needed very few changes in the learning environment. At the start of the year she was sitting near the back of the classroom and seemed uncomfortable. With a few rearrangements she was placed closer to the front of the room, which gave her equal peer acceptance, and her interaction improved. Techniques for teaching Joyce are basically the same as for others in the class: chapter text explanations with overhead projector examples, chalkboard examples, and wall chart examples. In a few cases she needs to have additional individual assistance in understanding a new concept, but she basically learns the concept very quickly. Since her learning style is auditory, with a psychomotor blend, some of the material presented on the overhead and in the book must be reinforced audittorially. Instructional materials include the regular course text, wall charts, taped cassettes for explanation of principles, simulation activities, and study guides. The special education teacher has been helpful in working with Joyce in the areas of auditory reinforcement of concepts, basic academic remediation of regular class materials, and help with behavior modification techniques.

INDIVIDUAL PRESCRIBED PROGRAM (IPP)

Public Law 94-142 mandates the IEP process, which includes the six components: identification and referral, assessment, development of the IEP, placement, implementation of the program, and review and evaluation. IEPs must be developed and used for all handicapped individuals under age 21 enrolled in public education.

Federal legislation does not require local school systems to prepare and use individualized learning programs for disadvantaged learners. Therefore, few school systems use this valuable tool to enhance the learning process for disadvantaged students.

The technique of designing and implementing a special education program for a given student has been used by effective vocational teachers long before it became required by law. Vocational teachers who have had handicapped learners in their program have often worked informally with other teachers and school personnel to plan and implement special learning experiences to meet the unique needs of these learners.

The purpose of the IPP is to provide a formal plan to identify and deliver the required assistance or special services disadvantaged learners may need to successfully complete an educational program. Disadvantaged learners are enrolled in regular academic and vocational courses but may have difficulties in participating fully in these courses because of one or more disadvantaging conditions.

Several prominent vocational special needs educators have advocated the development and utilization of individualized vocational plans to serve disadvantaged students (Albright, 1980; Lichtenstein and Cormier, 1981). These individualized vocational programs contain many of the same components found in the typical IEP.

The individual education plan used for disadvantaged learners in this text is called the individual prescribed program (IPP). The IPP shares many of the same information topics as the IEP but has some additional features to meet the needs of disadvantaged students. The first component of the IPP has three new information areas: (1) a disadvantaged classification section, (2) a section for summarizing results of support services provided, and (3) an employment record section. The vocational component of the IPP is identical to the one used in the IEP. The third component of the IPP, which is not included as a separate component in the IEP, is used to identify disadvantaged student deficiencies and to plan and evaluate the special methods, activities, resources, and personnel required to meet the unique needs of disadvantaged learners.

The following case study of a disadvantaged learner with an accompanying example of an IPP presented in Figures 5.12, 5.12a, and 5.12b should help distinguish the difference between the IEP and IPP.

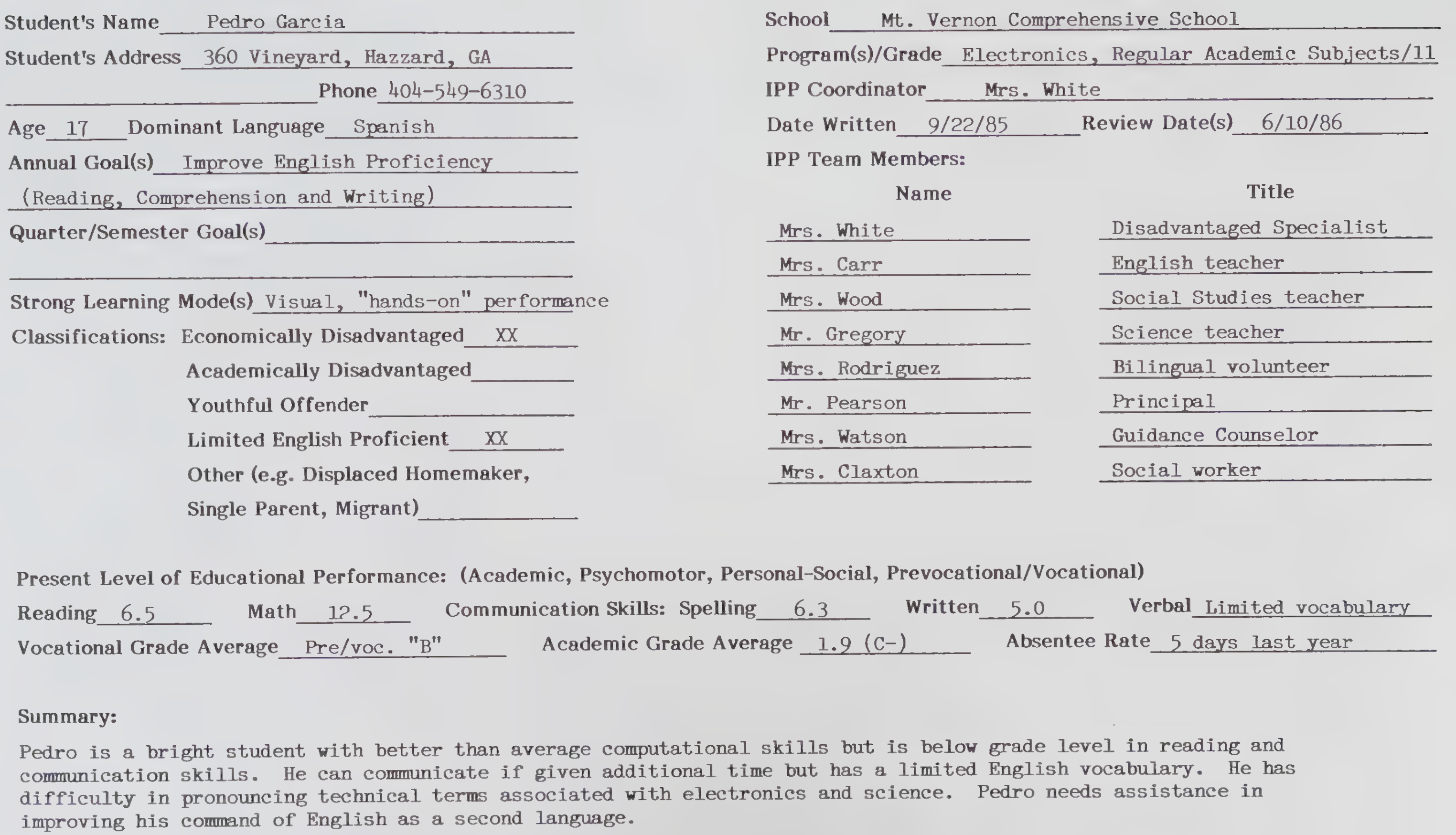
CASE STUDY

Pedro Garcia is a 17-year-old 11th grade male student who lives with his parents and three sisters in a public-supported, low-income housing development at 360 Vineyard Street. Pedro's father is a laborer who finds work when and wherever he can. The Garcia family just moved to the community recently because Pedro's father was able to find employment here.

The Garcia family is very poor. They are receiving assistance from the Government Food Stamp program and from local churches and community agencies

Figure 5.12

INDIVIDUAL PRESCRIBED PROGRAM (IPP)



Student's Name Pedro Garcia

Student's Address 360 Vineyard, Hazzard, GA

Phone 404-549-6310

Age 17 **Dominant Language** Spanish

Annual Goal(s) Improve English Proficiency (Reading, Comprehension and Writing)

Quarter/Semester Goal(s) ______

Strong Learning Mode(s) Visual, "hands-on" performance

Classifications: Economically Disadvantaged XX
  Academically Disadvantaged ______
  Youthful Offender ______
  Limited English Proficient XX
  Other (e.g. Displaced Homemaker, Single Parent, Migrant) ______

School Mt. Vernon Comprehensive School

Program(s)/Grade Electronics, Regular Academic Subjects/11

IPP Coordinator Mrs. White

Date Written 9/22/85 **Review Date(s)** 6/10/86

IPP Team Members:

Name	Title
Mrs. White	Disadvantaged Specialist
Mrs. Carr	English teacher
Mrs. Wood	Social Studies teacher
Mr. Gregory	Science teacher
Mrs. Rodriguez	Bilingual volunteer
Mr. Pearson	Principal
Mrs. Watson	Guidance Counselor
Mrs. Claxton	Social worker

Present Level of Educational Performance: (Academic, Psychomotor, Personal-Social, Prevocational/Vocational)

Reading 6.5 **Math** 12.5 **Communication Skills: Spelling** 6.3 **Written** 5.0 **Verbal** Limited vocabulary

Vocational Grade Average Pre/voc. "B" **Academic Grade Average** 1.9 (C-) **Absentee Rate** 5 days last year

Summary:

Pedro is a bright student with better than average computational skills but is below grade level in reading and communication skills. He can communicate if given additional time but has a limited English vocabulary. He has difficulty in pronouncing technical terms associated with electronics and science. Pedro needs assistance in improving his command of English as a second language.

Figure 5.12 continued

Supportive Services:

Service	Providers	Beginning/ Ending Dates	Summary of Results
Vocational Evaluation	Postsecondary AVTS	8/22/85	Interest and aptitude in electronics
Career Guidance	High School Counselor	9/3-4/85	Placement in electronics and regular academic subjects
Career Exploration Experiences	Previous jr. high school	8th & 9th grade	I.A. programs/"B" grades
Parental Conferences	Mrs. White and IPP team members	9/7/85, 9/10/85	Permission to develop IPP, involvement in IPP meetings
Home Visits	Social Worker	9/9/85	Better understanding of home/society
VSO Activities	Electronics VICA Section	9/17/85	Pedro selected for display committee
Job Placement Assistance			
Remedial Services:			
Peer Interpretation Assistance	Bilingual student aid	9/30/85	Improved English vocabulary and classroom/laboratory performance
Interpretation of Lesson Materials	Bilingual parent volunteer	10/5/85	Improved English comprehension in all subjects
Other Services:			
Individual Assistance in Technical Terminology, Vocational Concepts and written tests using English/Spanish dictionary	Disadvantaged Specialist	10/9/85	Improved performance in electronics

Employment Record:

Employer	Job Classification	Dates
Mr. Perez (Grocery Store)	Bagger	6/11 - 8/10/85
A-1 Dry Cleaners	Dry Cleaner Helper	6/15 - 8/11/84

Parent/Guardian Signature________________________________

Figure 5.12a

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—VOCATIONAL COMPONENT

Student Name Pedro Garcia
Date IEP was Written 9/23/85
IEP Coordinator Mrs. White

Program(s) Electronics, Regular Academic Courses
Annual Goal(s) Improve English Proficiency (Reading and Writing) **Review Date(s)** 6/10/86
Quarter/Semester Goal(s) ______ **Review Date(s)** 1/10/86
Instructional Task(s) Basic Task in Introduction to Electronics

		Evaluation of Instructional Objectives		
Short-Term Instructional Objectives	Instructional Strategies Methods and Materials	Performance Criteria	Tests/Evaluation Procedures	Evaluation Date/ Results M = Mastery I = Incomplete
1. Placed in an electronics laboratory, observe safety precautions and identify safe and unsafe practices and precautionary measures to prevent hazardous electrical conditions	a. Provide English/Spanish Dictionary b. Use bilingual parent volunteer to provide Spanish translations for student problem areas in reading textbook assignments c. Provide demonstrations on extinguishing electrical fires and administering first aid to electrical shock victims d. Assign Pedro the task of developing a safety checklist with assistance from either the bilingual student aid or parent volunteer	a. Score 100% on safety test b. Score 100% on demonstration on simulated first aid exercise c. Score 80% or better on safety checklist development assignment	a. Written safety test (bilingual student aid assistance) b. Demonstration of first aid task c. Evaluate student developed safety checklist	Oct. 3, 1985 - M
2. Given a pictorial diagram of several basic hand tools, identify and give the function of each	a. Present each tool and describe its function b. Provide a pictorial list of each tool with English and Spanish terms c. Use bilingual student to assist Pedro in understanding tool functions	a. Score 90% on tool identification and functions test	a. Pictorial test on tool names and functions (allow students to use translation dictionary)	Nov. 29, 1985 - M
3. Given a list of terms associated with the nature of matter, give their correct definition	a. Assign textbook readings and encourage Pedro to use translation dictionary b. Use bilingual student aid or parent volunteer to assist Pedro with reading assignment c. Provide a classroom lecture supported with visuals d. Share terms on the nature of matter with science teacher for reinforcement	a. Minimum score of 80% on definition of terms test	a. Matching test on terms associated with the nature of matter (allow use of translation dictionary	Dec. 13, 1985 - M
4. Given a list of several different electrical producing devices, identify which of the six major sources they belong to	a. Assign textbook reading assignments and encourage the use of translation dictionary b. Use bilingual student or parent volunteer to assist Pedro in understanding reading assignment c. Provide illustrated lecture on power sources d. Demonstrate how to measure current with a galvanometer e. Demonstrate how to test the specific gravity of a battery	a. Minimum score of 80% on power source tests b. Test battery without missing more than two points on the checklist for this task	a. Written test on power source (allow Pedro to use translation dictionary) b. Performance demonstration on testing specific gravity of a battery	Jan. 16, 1986 - I

Figure 5.12b

INDIVIDUAL PRESCRIBED PROGRAM (IPP)—REMEDIATION COMPONENT

Student Name Pedro Garcia
Date IEP was Written 9/23/85

IEP Coordinator Mrs. White

Program(s) Electronics, Regular Academic Subjects
Annual Goal(s) Improve English Proficiency (Reading and Writing)
Review Date(s) 6/10/86
Quarter/Semester Goal(s)
Review Date(s) 1/10/86
Instructional Task(s) Basic Tasks in Introduction to Electronics

Dates	Deficiencies Identified by Vocational Instructor	Methods, Activities/Resources to Be Utilized in Remediating Deficiencies	Support from Academic Remediation Team Where Applicable	Progress Date
9/5/85	Difficulty in understanding technical terms and technical concepts in the electronics class and laboratory	a. Provide an English/Spanish Dictionary b. Share technical terms with bilingual student aid, bilingual parent volunteer, disadvantaged specialist and science teacher c. Speak slowly and clearly in introducing new technical terms d. Encourage Pedro to explain the meaning of technical terms to ensure comprehension	a. Bilingual student aid b. Bilingual parent volunteer c. Disadvantaged specialist IPP team members	Pedro is increasing his English vocabulary as a result of remedial assistance
9/16/85	Difficulty in reading English well enough to understand reading assignments and tests in electronics	a. Use the English/Spanish Dictionary b. Highlight important words, passages and illustrations (may provide Spanish summary) c. Reinforce reading assignments with other IPP team members	a. Bilingual parent volunteer b. IPP team members	Pedro is making study progress in reading and understanding lesson assignments

which provide food, clothing and special services. The Garcia family is of Spanish descent and Spanish is the spoken language in the home.

Pedro is a bright student with better than average math ability but has done poorly in other academic subjects because of his limited English proficiency. He has also been forced to move from school to school because of his father's occupation, which has also contributed to Pedro's poor academic performance.

Pedro is fascinated with electronic devices and spends much of his leisure time watching Mr. Shore repair televisions and radios in the electronics repair shop near the housing development.

Pedro applied for school in early August and was given a series of tests to determine his capabilities by the guidance counselor. The guidance counselor also arranged for a vocational evaluation for Pedro at the nearby postsecondary area vocational technical school, which has an evaluation laboratory.

Pedro was identified as being a disadvantaged student with above average ability in math and vocational aptitude in the area of electronics. He also was identified as being deficient in reading, writing, speaking, and comprehending English. Pedro was placed in a two-hour block of electronics and in the academic subjects of English, social studies, science, and physical education.

Early in the program Mr. Grogan, the electronics teacher, recognized Pedro's deficiency in English. He also recognized that Pedro was a bright student with the ability to perform mathematical computations and handle abstract reasoning as they apply to the electronics program. Mr. Grogan contacted Mrs. White, the school system's disadvantaged specialist, to share information about Pedro and to see what assistance she could provide to help Pedro improve his English.

Mrs. White, along with assistance from the guidance counselor, Mrs. Trane, prepared a profile for Pedro based on information obtained in the assessment process administered prior to the beginning of school. She informed Mr. Grogan that other teachers were experiencing similar problems with Pedro and that an IPP should be jointly developed.

Pedro's five teachers, the principal, guidance counselor, and school disadvantaged specialist met on two occasions to plan an IPP for Pedro. Two additional support people were identified as a result of the IPP planning process, a bilingual vocational student aid and a bilingual volunteer parent who could work part-time to help Pedro and his teachers. Provided with support services and a cooperative team effort as a result of the IPP process, Pedro is showing improvement in English language skills and in his progress in the electronics program and his academic subjects.

The first page of the IPP example (Figure 5.12) contains general information on the disadvantaged learner, including background information, disadvantaged classification, educational programs and goals, present level of educational performance, supportive services needed, and employment record. The second page of the IPP (Figure 5.12a) contains the vocational component which identifies the annual goals; instructional objectives; instructional strategies, methods and materials; and evaluation information including performance criteria, test and evaluation procedures, and evaluation results. The third page of the IPP (Figure 5.12b) is the remediation component which includes the deficiencies indentified by the vocational instructor, the methods, activities, and resources to be utilized in remediating deficiencies; the support provided by academic remediation team members; and a description of progress on each deficiency.

The IPP planning process is similar to the process used in developing the IEP. A number of teachers and support personnel should form an IPP planning team to obtain and share information required to develop the components of the IPP.

A key planning component is to identify vocational lesson concepts which can be shared with and reinforced by other teachers who are working with disadvantaged learners. For example, Pedro was having difficulty in reading and understanding electronic technical terms and concepts. This information was shared with other IPP team members and decisions were made to make copies of new technical terms and share them with the English teacher and science teacher so they could be reinforced in their classes.

IMPLEMENTING THE IEP/IPP

The most challenging and important phase of the IEP/IPP process is implementing these educational programs to enable special needs learners to accomplish identified goals and objectives which will help them prepare for employment and an independent, satisfying life in their communities. Implementing the IEP/IPP involves cooperative planning and instructional coordination, curriculum modification and development, personalized instructional delivery, and continuous monitoring and evaluation of each special needs learner's progress.

The IEP/IPP serves as a flexible master plan to guide and manage the overall education program for special needs learners. The annual/intermediate goals and instructional objectives portion of the IEP/IPP provide general direction to the vocational program of spcecial needs learners, but is not sufficient to be used as a lesson plan. Therefore, vocational teachers should develop specific lesson plans and evaluation materials for delivering instruction on each of the IEP/IPP instructional objectives. Figures 5.13/5.13a and 5.14/5.14a are examples of a group lesson plan/evaluation plan and self-paced lesson/evaluation plan for one IEP/IPP instructional objective.

The self-paced lesson (Figure 5.14) utilizes a one-page flow sheet to guide the learning process. The student and program identification data is presented at the top of the sheet followed by a number of pointed blocks which indicate the flow of reading assignments, audio-visuals, practical applications, and checkpoints. Reading assignments are indicated by a capitol "R" followed by the reading assignment number. For example, R-1 indicates the first reading assignment, which is assignment number 401-8 in the example self-paced lesson. The student and instructor are provided with a manual containing a description of assignments.

For example, R-1 (assignment 401-8) requires the student to read pages 107–114 in Text #21 and answer the self-test item on page 116. Text #21 is entitled "Vehicle Chassis Systems" and is found on the text listing sheet provided in the student's and instructor's manuals. The audio-visuals, practical applications, and checkpoints sections work in a similar fashion. For example, P-1 indicates assignment 401-10 which asks the student to review pages 122–127 in Text #21, then balance all tires on the assigned vehicle—two tires using method A and two tires using method B.

This self-paced lesson format makes it possible to simply change the assignment sections rather than all the flow sheets in one instructional program. It is also easy for students to follow, and it contains a set sequence of learning activities designed to enhance the learning process.

Phelps (1980) states that in order to implement the IEP/IPP, vocational teachers must be involved in:

1. Obtaining information about (a) referral, screening, evaluation, placement procedures for special needs learners, (b) requirements concerning the development and implementation of IEPs/IPPs including parental involvement and due process, (c) selection and adaptation of materials and equipment, (d) resources and services offered within the school and by community agencies, (e) record keeping and data collection for evaluating learner progress, (f) occupational training and placement, (g) curriculum materials and curriculum development and (h) complying with the school's vocational education program requirements.
2. Becoming a contributing member on committees for placement, planning and implementing programs and services for special needs learners.
3. Encouraging and assisting special needs learners in becoming independent, capable learners and workers by: (a) helping them to develop the skills, knowledge and attitudes required to become a worker in a career interest area, (b) promoting participation in vocational student organization activities and other school activities, and (c) providing them with the extra attention and help needed for them to become competitive with other vocational students for jobs and careers.
4. Providing the direction for planning and implementation of the vocational components of the IEP and IPP with other school subject areas.
5. Coordinating classroom activities, in-school training stations and training stations in the community for special needs learners.
6. Evaluating student progress in all areas and adjusting educational plans as needed.
7. Providing direction for support personnel assigned to the vocational program.
8. Working cooperatively with counselors, teachers and other school personnel to facilitate learning for special needs students. (See Module 6 for additional information on cooperative planning.)
9. Providing feedback to special needs learners, parents, other school personnel and appropriate community agency personnel regarding (a) student performance, (b) need for reassessment and/or placement in another program, and (c) need for additional support services.
10. Developing teaching strategies, methods and techniques to meet the unique learning styles of special needs learners icluding: (a) individualized, self-paced instruction, (b) modification of learning experiences as needed, (c) modification of instructional materials, (d) multi-media instructional delivery and (e) utilization of the community as learning sites.
11. Making extensive use of school system, community, governmental and private industry resources for special needs learners.
12. Developing effective interpersonal relations in dealing with students, parents, teachers and other professionals who are providing assistance to special needs learners.

Successfully implementing the IEP/IPP for special needs learners requires a constant effort in monitoring and evaluating activities to assess the student progress

Figure 5.13

IEP GROUP LESSON PLAN

Student's Name Amy Sloan

Handicapping Condition Speech Impaired

Annual Goal(s) Improve Language Communication Skills

IEP Objective(s) Present a sales talk on a product or service

Performance Criteria Demonstrated talk and/or script Must meet the checklist criteria of 80% or higher for task

Materials and Supplies Fundamentals of Selling, pp. 282-289, Selling Principles and Practices, pp. 203-221, AVs on Selling

Program/Grade Marketing and Distributive Education/11

Course/Unit General Marketing/ Personal Selling

Instructional Task(s) Presenting a sales talk on a product or service

Teacher(s) Mr. Sanders (MDE), Mrs. Lane (Communications Specialist)

Support Services Lesson Concepts

Lesson Concepts Sales Talk

1. Definition and objectives of a sales talk/presentation
2. Qualities of an effective sales talk
3. Types of sales talks/presentations
4. Preparation for sales talk/presentation
5. Evaluation of a sales talk/presentation

Instructional Steps

a. Introduce sales talk topic and communicate lesson objective
b. Relate a short story about personal selling
c. Present each concept with words, pictures and overhead transparencies
d. Ask questions or pose situations during the presentation to involve students
e. Summarize key points of lesson
f. Ask for a student volunteer to play the role of a potential customer
g. Demonstrate a simulated sales talk
h. Assign students the task of preparing a script for a sales talk
i. Randomly select students to present a talk and have peers evaluate the talk using a checklist

Special Provision for Amy Sloan

a. Provide Amy with an outline of the lesson (copy to communications teacher)
b. Provide a model for Amy by speaking clearly and distinctly
c. Provide a list of new words with their pronunciations to Amy and her communications teacher
d. Encourage Amy and another student to work together in developing the script for the sales talk
e. Encourage Amy to practice her talk before her family at home
f. Work with communications teacher to develop joint instructional experiences related to this lesson
g. Video-tape Amy's practice talk and review it with her before she presents to the class

Evaluation Strategies: Have Amy select a product or service and develop a talk to a potential customer. Ask Amy to deliver the talk to another student who evaluates her performance using a checklist. Ask Amy to present her talk to the entire class and let them evaluate her performance against checklist criteria.

Figure 5.13a

IEP LESSON PLAN EVALUATION

Student's Name Amy Sloan

Learning Program(s) Speech Impaired

Evaluation Date(s)

Evaluation Summary

Program/Grade Marketing & Distributive Ed.

Course/Block General Marketing/Personal Selling

Unit 201

Instructional Task(s) Present a sales talk on a product or service

IEP Objective Given a product or service to sell, present a sales talk to a prospective customer

Performance Criteria Talk must include at least 80% of the criteria on the talk presentation checklist

WRITTEN TEST

1. Administer and score a 25 item post-test on a sales talk.

OBSERVATION

Observe Amy and her peer developing the script for her talk. Review the video-tape of Amy's presentation with her in private.

PERFORMANCE TEST

Evaluate Amy's talk script and/or Amy's talk to a peer student in a role playing situation by using the following checklist.

		Yes	No
1.	Exhibited a friendly welcome		
2.	Showed a sincere interest in helping the customer		
3.	Used an appropriate opening statement		
4.	Questioned the customer to determine customer interest		
5.	Described the product/service with word pictures		
6.	Used dramatic actions to enhance the presentation		
7.	Exhibited enthusiasm for the product or service		
8.	Involved the customer through questioning and application		
9.	Handled customer interruptions and objections well		
10.	Used an appropriate closing statement		

Figure 5.14

IEP SELF-PACED LESSON

Student's Name Amy Sloan

Learning Program(s) Speech Impaired Transportation

Support Services Communication Specialists

Special Provisions Amy received instruction in communication skills two days per week from the communications specialist. Instructional tasks involving oral communication such as talking with customers and new word pronunciations should be jointly presented by vocational teacher and communications specialist

Program/Grade Transportation/11

Course/Block Steering and Suspension

Unit 401

Instructional Task(s)

IEP Objective Given necessary tools, equipment and instructions, prepare vehicle and balance tires using the static and dynamic processes

Performance Criteria Student performance on worksheets, written test and performance test must meet 80% criterion. All work should follow accepted procedures and be to manufacturer's specifications

SEQUENCE OF ACTIVITIES

R-1	C-1	R-2	P-1	C-2	R-3	C-3	P-2
C-4	C-5	P-3					

READING ASSIGNMENTS

R-1 Assignment 401-8
R-2 Assignment 401-9
R-3 Assignment 401-11
R-4
R-5

PRACTICAL APPLICATIONS

P-1 Assignment 401-10
P-2 Assignment 401-12
P-3 Assignment 401-13
P-4
P-5

AUDIO-VISUALS

A-1
A-2
A-3
A-4
A-5

CHECKPOINTS

C-1 Information from instructor
C-2 Progress check (assignment 401-10)
C-3 Test (written)
C-4 Instructor demonstration
C-5 Performance observation
C-6 Progress check (assignment 401-13)

NOTE: (see assignments for texts, materials and information)

Figure 5.14a

IEP LESSON PLAN EVALUATION

Student's Name Amy Sloan
Learning Program(s) Speech Impaired
Evaluation Date(s) ____________
Evaluation Summary ____________
____
____

Program/Grade Transportation/11
Course/Block Steering and Suspension
Unit 401
Instructional Task(s) Balance tires
IEP Objective Balance tires using the static and dynamic processes
Performance Criteria Performance on assignments, written test and performance test must be at the 80% criterion level or higher

WRITTEN/ORAL TEST(S)

1. Administer and check student's performance on self tests on static and dynamic balancing (Text 21 - answer keys on pp. 15-21 of instructor's guide).

2. Administer and check two written tests on tire balancing (Test 21 - answer keys on pp. 15-21 of instructor's guide).

OBSERVATIONS

Observe student practicing tire balancing and correct procedures if necessary.

PERFORMANCE TEST

Administer performance tests on static and dynamic tire balancing using checklist which follows:

	Yes	No
1. Were all tools, equipment and materials obtained?		
2. Were safety glasses worn?		
3. Was vehicle prepared safely and correctly?		
4. Were tires checked usually to determine need for balancing?		
5. Were tires marked to ensure proper replacement?		
6. Was tire pressure checked and corrected if needed?		
7. Were all weights removed before balancing?		
8. Was equipment installed correctly?		
9. Was equipment operated according to established procedures?		
10. Were weights installed in correct locations per instructions?		

and to determine the need to modify the instructional program and services to enhance the learning process. Vocational teachers and other personnel working with special needs learners need to communicate regularly and meet as a group to discuss progress, problems, and other factors affecting the student's performance. Time is a critical need for all teachers and every effort should be made to use it in the most efficient manner. Informal contacts with teachers can often satisfy a need for information sharing, thereby eliminating the need for a formal meeting.

Perhaps the most critical IEP/IPP implementation factor is commitment. Vocational teachers must be committed to the extra time and effort often required to meet the unique needs of special needs learners. Participating in the IEP/IPP process requires effort. The end result of assisting a special needs learner to develop the competencies required for a successful, independent life in the community and workplace is reward enough, but there are other benefits from being involved in the IEP/IPP process.

BENEFITS FOR VOCATIONAL EDUCATION PERSONNEL PARTICIPATING IN THE IEP/IPP PROCESS

Participating in the IEP/IPP process can be beneficial in a variety of ways to vocational teachers who work with special needs students. Some suggestions follow for ways in which the IEP/IPP process can aid vocational teachers to organize, teach, monitor, and evaluate ongoing program content and activities as well as assume the responsibility for developing the vocational education component.

1. Assists the teacher in understanding the strengths, abilities, interests, and needs of the handicapped student to be enrolled in the vocational program.
2. Encourages the teacher to analyze specific program content in relation to the strengths, abilities, interests, and needs of the student.
3. Helps the teacher organize the curriculum for the program.
4. Assists the teacher to work as a team member with special education personnel to analyze the student's present level of educational performance, abilities, and interests in order to identify a realistic occupational goal.
5. Assists the teacher in identifying appropriate and realistic annual goals that can be achieved by the student during the year.
6. Aids the teacher in developing short-term instructional objectives that will lead to successful completion of the annual goals established for the student.
7. Helps the teacher identify specific criterion levels that must be demonstrated before success is met regarding short-term instructional objectives.
8. Enables the teacher to use specific criterion levels and short-term instructional objectives in making continuous revisions and improvements in the program.
9. Enables the teacher to develop appropriate lesson plans for use with the student.
10. Assists the teacher in selecting appropriate teaching procedures and materials to meet the needs of the student.
11. Provides the teacher with an opportunity to communicate the vocational program goals and objectives to administrators, parents, and special education personnel during the IEP/IPP team process.
12. Enables the teacher to work cooperatively with other school personnel to meet the needs of the student.

SUMMARY

One of the most important guarantees of the Education for All Handicapped Children Act of 1975 (Public Law 94-142) is the requirement that every handicapped individual from ages 3 to 21 be provided with a written individualized education program (IEP). This program describes that specific educational opportunities that the local school district will provide for the student. It must be developed and reviewed at least once annually.

The 1976 Amendments to the Vocational Education Act (Public Law 94-482) states that the goals and objectives developed in the IEP will be used to place students in vocational education programs.

The three basic purposes of the IEP are (a) to provide an individually prescribed educational program to meet the needs of each handicapped individual, (b) to provide a system for accountability for providing educational services to handicapped individuals, and (c) to provide for an open channel of communication among all personnel working with the individual.

The IEP team that meets to develop this program must include (a) an administrator or representative of the local education agency, (b) the student's parent/guardian, (c) the teacher(s) who will be responsible for working with the student, and (d) the student, if appropriate.

When handicapped students are mainstreamed into vocational programs, it is important that the teacher be a member of the IEP team and actively participate in the IEP process to assure that the goals, objectives, and educational services are appropriate.

The necessary components of the IEP include: (a) present level of educational performance of the student, (b) annual goals and short-term instructional objectives, (c) specific educational services to be provided, (d) extent to which the student will participate in regular educational programs/activities, and (e) specific criteria for evaluating objectives and schedule for review.

Individual prescribed programs (IPPs) should be developed for disadvantaged learners and used as a management tool to provide the additional support or remedial services required to assist these learners to function and succeed in the vocational and regular academic program. IPPs are not required by law but can provide the vehicle for vocational teachers and other school and community personnel to work together to help disadvantaged learners. IPPs have many of the same components as IEPs but they are different in some respects.

The IPPs have the additional information areas of disadvantaged classification section, a section for summarizing results of support services provided, an employment record section, and a new remediation component for identifying disadvantaged student deficiencies and for planning the methods, activities, and personnel included in helping the student overcome each deficiency.

The success of the IEP/IPP process often depends on the effort expended in implementing these individual education programs. The IEPs/IPPs serve as master plans to guide the overall instruction and services provided for special needs students. However, additional materials such as lesson plans, evaluation materials, and other instructional materials and aids may need to be developed to deliver instruction to these students to meet the unique needs of each.

Participating in the IEP process can be beneficial to vocational personnel in a variety of ways. It can: (a) assist them in better understanding the needs of the handicapped individual, (b) help them to organize, present, and evaluate the curriculum, (c) aid them in developing realistic, appropriate goals and objectives to meet the specific needs of the learner, (d) assist them in evaluating student progress in the program, and (e) provide them with an opportunity to work cooperatively with other personnel.

SELF ASSESSMENT: INDIVIDUALIZED EDUCATION PROGRAM

1. Describe the relationship between the IEP and recent federal legislation.
2. Describe the three general purposes of the IEP.
3. For whom is the IEP developed?
4. List the individuals who must be involved in developing the IEP. List others who may be involved.
5. Describe the role and responsibilities of each member of the IEP team.
6. What is the role and responsibilities of the vocational personnel participating in the IEP team meeting?
7. Describe what happens during an IEP/IPP team meeting.
8. Identify the required components of the IEP and IPP.
9. Discuss the importance of identifying the student's present level of educational performance for use in the IEP and IPP.
10. Discuss the importance of developing annual goals and accompanying short-term instructional objectives for the IEP and IPP.
11. List some example goal statements that could be included in IEPs and IPPs.
12. Discuss the importance of identifying specific educational services to be provided for the student.
13. Discuss the importance of describing the extent to which the student will participate in regular classroom/program activities.
14. Discuss the importance of establishing specific criteria for use in evaluating annual goals and short-term instructional objectives.
15. Discuss the importance of scheduling a date for reviewing the IEP/IPP.
16. How often must the IEP be reviewed?
17. List the benefits for vocational personnel participating in the IEP process.
18. Describe what is involved in implementing an IEP and IPP.

ASSOCIATED ACTIVITIES

1. Work cooperatively with special education personnel to establish some informal hands-on assessment activities for use in determining the student's present level of educational performance in psychomotor skills and/or vocational skills.
2. Prepare a list of prerequisite skills and/or knowledge that would be useful for a handicapped individual to have prior to enrolling in your program. Use this list as a basis for discussion and decision-making during the initial IEP team meeting.
3. Identify, in cooperation with special education personnel, the support services and supplementary aids that are available in your school/district to meet the identified needs of handicapped students. You can

then use this information to determine the specific educational services that a handicapped student will need when he/she is enrolled in your program. This should be documented in the IEP.

4. If you are currently working with handicapped students in your program, contact the special education teacher and request to see a copy of the IEP developed for each student. If you were not included in the initial development phase, check the goals, objectives, and services as they relate to student participation in your vocational program. Cooperatively plan any necessary modifications or revisions with the special education teacher. Request that you be included in future IEP team meetings to assure that the vocational education component of the IEP will be realistic and relevant.

5. Establish a file to keep a copy of current IEPs/IPPs, or at a minimum, the vocational education component, so that you can refer to them for assistance in organizing the curriculum, developing instruction, and monitoring student progress.

6. Develop specific criteria for mastering tasks in your program. These criteria can be in the form of activity checklists, proficiency profiles, written tests/quizzes, and criterion-referenced performance tests. These criteria can be used in developing the IEP and in evaluating student performance.

7. Develop an efficient recordkeeping system to periodically evaluate student progress in the vocational program relative to the objectives established in the IEP/IPP.

8. Contact other vocational education teachers in your school or district who have worked with a particular handicapped or disadvantaged student. Discuss the direction they took in the IEP/IPP process for this student.

CASE HISTORY: DALE'S STORY

Dale is a blind student enrolled in a program to train medical secretaries. He has had mobility training at the state school for the blind and uses a cane to get around. An itinerant teacher for the visually handicapped has been provided by the district to assist Dale. This support teacher works cooperatively with the program instructor in addition to working with Dale.

Dale can read braille. He uses a cassette recorder during classroom lectures, demonstrations, and discussions. The area Talking Books association has been very helpful by providing taped versions of textbook material used in the medical secretary program.

The program is comprised of components designed to develop necessary skills in typing, dictation, transcription, operation of office machines, and medical secretarial procedures. The phase of the secretarial program that most interests Dale is the one that deals with medical terminology and medical transcription skills.

The itinerant teacher, the program instructor, Dale's parents, and Dale have had several conferences to identify a realistic career goal. Based on Dale's interests and performance in the program, a career goal of medical library clerk has been identified. Dale hopes to complete the requirements for certification by the American Medical Records Association before exiting the program. This goal has been put into Dale's IEP and appropriate objectives have been developed.

The itinerant teacher will continue to work with the program instructor and with Dale to help him meet his goal. In addition, a Vocational Rehabilitation counselor has been assigned to assist Dale. Vocational Rehabilitation has agreed to provide him with any adaptive devices he may require in the program or on the job. Job placement assistance will also be provided when Dale is ready to exit from the program.

RELATED ACTIVITY

Eileen Berry is a partially sighted student who has just enrolled in your vocational program. Eileen's reading and math abilities are at the sixth grade level. It is helpful for her to have written materials prepared in large print.

Eileen is currently working closely with an itinerant teacher for the visually handicapped, a resource room teacher, a vocational rehabilitation counselor, and her special education teacher. Based on this information, complete the case history profile worksheet, which follows, for Eileen's participation in your program.

CASE HISTORY PROFILE WORKSHEET

Student:______________________________ Page:__________________

Handicapping Condition(s):____

Vocational Program:____________________ Academic Levels:__________

Career Goal/Occupational Interest:_________________________________

Considerations (e.g., medication, behavior):___________________________

____

Adaptation	Specific Services Needed	Where to Obtain Service
Cooperative Planning (School Personnel)		
Support Services		
Architectural Changes		
Adaptive Equipment		
Curriculum Modification		
Instructional Materials/ Supplies		
Teaching Techniques		
Agency Involvement		
Possible Job Placement		

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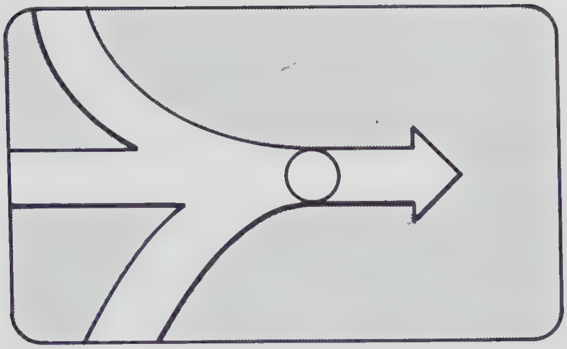


6

Many services are available for special needs learners to prepare them with salable skills and assist them in making the transition from school to the world of work. However, coordinating these services and deciding which institution or agency will provide what services a specific individual with special needs is not always accomplished easily. Without interagency collaboration many services may be excluded or duplicated.

Many states have developed a cooperative interagency agreement that describes the roles and responsibilities of vocational education, special education, vocational rehabilitation, and the primary agencies involved in order to maximize the services provided for handicapped individuals. These agreements have been developed as a result of the current national drive to expand and improve the service delivery systems used to provide individuals with disabilities with appropriate vocational education opportunities.

In addition to collaboration among agencies, it is also important that cooperative planning be promoted at the local level. Cooperative planning is a coordinated effort by various individuals and agencies to provide a comprehensive and realistic instructional plan for a special needs learner. Several considerations must be addressed to maximize the vocational potential of special needs learners.

This module provides the reader with an overview of the national perspective on interagency collaboration and state and local interagency agreement. In addition, cooperative planning with an emphasis on planning with school-based personnel, community agencies, advisory committees, parents/guardians and administrators is discussed.

OUTLINE

National Perspective on Interagency Cooperation
Position Statement on Comprehensive Vocational Education for All Handicapped Individuals
State Interagency Agreements
Local Interagency Agreements
Contributions from State Personnel toward Local Interagency Agreements
Barriers to Interagency Collaboration
Facilitators to Interagency Collaboration
Cooperative Planning
    Identifying Existing and Duplicated Services
Cooperative Planning with Agencies and Organizations
Cooperative Planning with Advisory Committees and Employees
    Developing a Local Business and Industry Resource Directory
Cooperative Planning with Parents/Guardians
Cooperative Planning with School Personnel
    Developing a Local System Resource Directory
Cooperative Planning with Administrators
Roles and Responsibilities of School-based Personnel Involved in Cooperative Planning
Interagency Collaboration through Written Individualized Programs

IEP and IWRP Collaboration
Summary
Self Assessment
Associated Activities
Case Study
References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Discuss the importance of the state and local interagency agreements.
2. Identify the key components of an interagency agreement.
3. Explain why the cooperative planning process is important.
4. Identify individuals and agencies that should be involved in the cooperative planning process.
5. Identify the role and responsibilities for individuals working cooperatively with special needs individuals in vocational programs.
6. Discuss the use of written individualized plans (i.e., IEP, IWRP, IPP) in interagency collaboration.

CONCEPTS

Individualized education program (IEP) - Program for handicapped learners, mandated by P.L. 94-142, planned cooperatively with support personnel. The IEP must have the present level of educational performance, annual goals and short-term objectives, amount of time spent in regular educational programs, necessary support services, and an annual review date.

Individualized written rehabilitation plan (IWRP) - A written plan developed for a handicapped individual eligible for services from Vocational Rehabilitation Services. The IWRP states vocational rehabilitation goals, specifies objectives and services, and specifies timelines for providing services.

Interagency collaboration - The coordination of the available resources of both public and private agencies whose objective is to provide vocational education instruction and services to special needs learners.

Related services - Transportation and such developmental, corrective, and other supportive services as are required to assist a handicapped child to benefit from special education, and includes speech pathology and audiology, psychological services, physical and occupational therapy, recreation, early identification and assessment of disabilities in children, counseling services, and medical services for diagnostic or evaluation purposes. The term also includes school health services, social work services in schools, and parents counseling and training. (P.L. 94-142)

Special education - Specially designed instruction, at no cost to the patient, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions. The term includes speech pathology, or any other related service, if the service consists of specially designed instruction, at no cost to the parents, to meet the unique needs of a handicapped child, and is considered "special education" rather than a "related service" under state standards. The term also includes vocational education if it consists of specially designed instruction, at no cost to the parents, to meet the unique needs of a handicapped child. (P.L. 94-142)

Vocational education - Organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, in such fields as agriculture, business occupations, home economics, health occupations, marketing and distributive occupations, technical and emerging occupations, modern industrial and agricultural arts, and trade and industrial occupations, or for additional preparation for a career in such fields, and in other occupations requiring other than a baccalaureate or advanced degree and vocational student organization activities as an intergral part of the program. (P.L. 98-524)

Vocational rehabilitation - Service of providing diagnosis, guidance, training, physical restoration, and placement to disabled persons for preparation and acquisition of employment, which allows greater independence.

MODULE 6
INTERAGENCY COLLABORATION AND COOPERATIVE PLANNING

Greenan (1980) describes interagency cooperation as the coordination of the available resources of both public and private agencies whose objective is to provide vocational education instruction and services to special needs learners. The efficient and effective delivery of vocational assessment, vocational instruction, support services, and other essential related services depends upon coordination among the various service providers.

Many services are available for special needs learners to prepare them with salable skills and help them make the transition to the working world. However, coordinating these services and deciding which institution or agency will provide specific services to an individual with special needs is not always easily accomplished.

Educational institutions, job training programs, rehabilitative agencies, employment services, community services, and business and industrial services are often available to develop skills necessary for independence for these individuals. However, the full force of the combined potential of these resources is seldom seen because they are frequently fragmented and separated. Thus, the need for interagency collaboration is crucial.

NATIONAL PERSPECTIVE ON INTERAGENCY COOPERATION

Recent legislative mandates and federal initiatives have urged that agencies receiving federal funding begin to plan, implement, and evaluate collaborative plans. For example, in examining the services made available to handicapped individuals in the Education for All Handicapped Children Act (P.L. 94–142) and Section 504 of the Rehabilitation Act of 1973 (P.L. 93–112), as well as the transition services emphasized through recent statements made by the Office of Special Education and Rehabilitative Services (OSERS), it is clear that these individuals may need a myriad of opportunities and/or services in order to adequately develop vocational potential and successfully secure meaningful employment and independence. When combined with the mandates for both handicapped and disadvantaged individuals in the Carl Perkins Vocational Education Act (P.L. 98–524), the list of potential opportunities and services to be provided for special needs individuals includes the following:

1. access to vocational training programs,
2. career development activities (awareness, orientation, exploration, and preparation),
3. vocational assessment services,
4. vocational guidance and counseling services,
5. curriculum modification,
6. specific skill training,
7. remediation assistance,
8. prevocational skills,
9. employability and work adjustment skills,
10. diagnostic and related services,
11. public school collaboration with other agencies and institutions (e.g., Community Based Organizations—CBO),
12. placement services,
13. transition services.

Without interagency planning many services may be excluded or duplicated. It is essential that a process be established at the state and local level to (a) investigate services needed by special needs individuals so that their vocational goals can be achieved, (b) determine which agency can provide which services, and (c) determine to what extent these services can be shared in a cost effective manner. Getzel, Salin, and Wacker (1982) list several basic factors that prompt the need for interagency agreements:

1. a number of different agencies may provide the same or similar services;
2. few agencies possess all the necessary resources to meet the totality of client's needs;
3. a scarcity of resources and funds demand the most effective use of available services;
4. high quality services provided in sufficient quantity and in orderly fashion require case management techniques;
5. a well-coordinated and systematic delivery of services facilitates the identification of gaps and barriers.

Ferrini, Matthews, Foster, and Workman (1980) state that interagency linkages and agreements promote the:

1. sharing of organizational perspectives on the needs of clients;
2. sharing of information about services currently offered to clients;
3. identification of the most crucial unmet needs of clients;
4. identification of new programs or new linkages between existing programs that would meet these crucial client needs;
5. identification and sharing of organizational resources which could be pooled to develop needed new programs;
6. planning and implementation of new programs by key staff persons from organizations holding needed resources;
7. development of long-term collaborative relationships among these organizations to insure continued community-wide efforts to identify needs and develop programs for their common clientele (p. 30).

POSITION STATEMENT ON COMPREHENSIVE VOCATIONAL EDUCATION FOR ALL HANDICAPPED INDIVIDUALS

It was not until 1978 that federal agencies acknowledged the importance of cooperative planning for special needs individuals. On September 25, 1978 the *Federal Register* published the position statement of the United States Office of Education (USOE) concerning Vocational Education of Handicapped Persons. It stated that

> Handicapped individuals have not had adequate access to the education system and have received less than a proportionate share of the vocational education provided in the public education sector.
>
> The challenge for the future is for all segments of the USOE to work cooperatively to overcome the attitudinal, programmatic, and physical barriers that exist, and to develop a new level of awareness regarding the critical need to facilitate handicapped person's participation in the total educational system.

The primary objectives in developing this position statement were to:

1. assess and evaluate progress of the educational community toward achievement of the goal of appropriate comprehensive vocational education for all handicapped persons, and
2. develop the primary interagency and intradepartmental agreements needed in the appropriate comprehensive vocational education effort at the national level and encourage development of similar agreements at state and local levels.

The assumptions that formed the basis for this position statement were that appropriate comprehensive vocational education for the handicapped

1. is dependent upon all segments of the education system. Elementary, secondary, and adult education must provide the programs and services necessary for students to develop basic skills and make career choices. Vocational education must provide the education and training to develop occupational competencies;
2. must include cooperative relationships between the educational sector and the employment sector to facilitate the transition from school to work;
3. will provide sequential educational instruction and training appropriate to the needs and progress of each handicapped individual;
4. will reduce the number of handicapped persons who are unemployed by providing the education needed for effective participation in the labor force. This also will assist employers to meet their affirmative action goals for employment of the handicapped;
5. will, to the maximum extent possible, identify and eliminate factors such as attitudinal and environmental barriers, which determine to a large degree the impact that specific handicaps have on individuals. [*Federal Register, 43*(186) September 25, 1978]

Shortly after this position statement was released, the U.S. Commissioners of Education and Rehabilitation Agencies sent a memorandum to the Chief State School Officers, State Directors of Vocational Rehabilitation, and State Directors of Vocational Education. This memorandum concerned the development of formal cooperative agreements among special education, vocational rehabilitation, and vocational education programs at the state level to maximize services to handicapped individuals. The USOE Memorandum (1978) announced a

> joint national initiative to expand and improve the service delivery system to handicapped individuals. . .It is a basic tenet. . .that the development of new interagency agreements among State Departments of Special Education, State of Vocational Education, and State Rehabilitation Agencies is critical to the achievement of the goal. It is the expectation of all of the participants that states will develop new agreements during the fiscal year 1979.

This memorandum (1) laid out minimum services to be included in agreements by State Education and Rehabilitation Agencies; (2) encouraged collaborative IEPs and IWRPs at the earliest time appropriate to each eligible individual; (3) addressed the need for cooperative funding; and (4) encouraged the sharing of pertinent information between agencies (Tindall, 1982).

> To discuss appropriate implementation plans a national training workshop was held in 1979 for special educators, vocational educators, and rehabilitation administrators. Over 200 agency personnel from across the country met in Washington, D.C. to receive the mandate from the Commissioner of Education and the Commissioner of Rehabilitation Services. The remainder of the program was devoted to identifying agency roles in comprehensive and collaborative programming for handicapped individuals and reviewing the "process model" which could guide state efforts and facilitate intiatives for interagency cooperation. The conference handbook provided the background, legislative references, process model, and, examples of interagency agreements that had already been developed. Prepared with the mandates and some "tools" to use, the participants were encouraged to return to their agencies and begin planning for interagency cooperation through Interagency Linkage Agreements at the state level. (Greenan, 1982, p. 3)

In addition to the emphasis on interagency agreements there has been an increasing focus on providing the necessary transition services required by special needs individuals to successfully bridge the gap between school and employment. In 1984 the United States Office of Special Education and Rehabilitative Services (OSERS), formerly the Bureau of Education for the Handicapped (BEH) under the former Office of Health, Education and Welfare (HEW), placed a national priority on the improvement of transition programs and services for all individuals with disabilities. Madeleine Will (1984) has defined transition from school to working life as:

> a process encompassing a broad array of services and experiences that lead to employment. Transition is a period that includes high school, the point of graduation, additional post-secondary education or adult services, and the initial years in employment.
>
> Transition is a bridge between the security and structure offered by the school and the opportunities and risks of adult life. Any bridge requires both a solid span and a secure foundation at either end. The transition from school to work and adult life requires sound preparation in the secondary school, adequate support at the point of school leaving, and secure opportunities and services, if needed, in adult situations.
>
> Since the services and experiences that lead to employment vary widely across individuals and communities, the traditional view of transition as a special linking service between school and adult opportunities is insufficient. The present definition emphasizes the shared responsibility of all involved parties for transition success and extends beyond traditional notions of service coordination to address the quality and appropriateness of each service area.

STATE INTERAGENCY AGREEMENTS

Many states have developed a cooperative interagency agreement that describes the role and responsibilities of the primary agencies involved (vocational education, special education, and vocational rehabilitation) in maximizing the services provided for handicapped individuals. These agreements have resulted from the current national drive to expand and improve the service delivery systems used to provide handicapped individuals with appropriate vocational education opportunities.

The cooperative agreement is a commitment by the agencies to provide comprehensive vocational education opportunities for handicapped individuals. The agreement usually covers cooperative services in the general areas of identification, evaluation, and vocational training.

Verbal agreements can lead to confusion and create an unhealthy situation for those offering and those buying services. Written interagency agreements are more specific and outline (a) what one agency agrees to do for another, (b) the settings involved, (c) the conditions, (d) the type of clients, (e) the financial arrangements, and (f) any limitations.

The National Advisory Council on Vocational Education (1983) participated in a study to help answer the question, "To what degree have *state level* comprehensive cooperative agreements involving special education, vocational education, and vocational rehabilitation influenced the delivery of *local level services* to handicapped youth enrolled in vocational education?" Analysis of findings shows that state and local cooperative agreements had a positive impact on local programs. Figure 6.1 is an example of a state interagency agreement.

> In the past, separate programs often duplicated or offered less than a comprehensive approach to service delivery. The cooperative agreement provides coordinated service delivery by establishing a common set of goals and objectives for several programs.
>
> It was also found that a majority of states responding to the survey have put into place the kinds of support systems needed to expand and improve the quality of services. Indicative of this trend are the documented increases in related state laws, education codes, cooperative agreements and studies on coordination and cooperation between special education and vocational education (pp. 3–4).

LOCAL INTERAGENCY AGREEMENTS

Local education agencies may or may not develop cooperative interagency agreements that reflect the guidelines established in the state cooperative inter-

Figure 6.1

STATE AGREEMENT BETWEEN THE GEORGIA DEPARTMENT OF HUMAN RESOURCES, DIVISION OF VOCATIONAL REHABILITATION AND THE GEORGIA DEPARTMENT OF EDUCATION, DIVISION OF SPECIAL PROGRAMS AND THE OFFICE OF VOCATIONAL EDUCATION

This document is the Cooperative Agreement between the Georgia Department of Education, Division of Special Programs, the Office of Vocational Education and the Georgia Department of Human Resources, Division of Vocational Rehabilitation (1979). Its purpose is a basic commitment on behalf of the State agencies to provide *comprehensive vocational services* for *handicapped individuals* by:

- a. assuming primary responsibility for assisting local education agencies in the development and implementation of vocational programs and services to serve handicapped persons;
- b. assuring that handicapped persons eligible for services under the Education of Handicapped Children Act of 1975 (P.L. 94-142), the Vocational Education Amendments (P.L. 94-482), the Rehabilitation Act of 1973 (P.L. 93-112), receive all appropriate services for which they are eligible; and
- c. assuring that the rights of handicapped persons are protected in compliance with Section 504 of the Rehabilitation Act of 1973.

This agreement covers cooperative action to be taken by the parties regarding the identification, evaluation, and vocational training of handicapped students in Georgia. It states that:

1. The Division of Vocational Rehabilitation shall:
   - a. accept primary responsibility for the identification, evaluation, and provision of vocational rehabilitation services to the handicapped students in Georgia;
   - b. accept from Vocational Education and/or Special Education all referrals of handicapped students who are 16 years of age or older or who are at the 10th grade level and provide expeditious screening in order to determine their eligibility for vocational rehabilitation services;
   - c. develop in concert with appropriate Special Education and/or Vocational Education staff an Individualized Written Rehabilitation Progam (IWRP) for each student determined to be eligible;
   - d. provide vocational rehabilitation services as specified in the vocational rehabilitation rules and regulations and requirements and conditions reflected in the state plan; and
   - e. comply with the Similar Benefits provisions as set forth in both federal and state rules and regulations.
2. The Office of Vocational Education shall:
   - a. refer identified handicapped students for vocational rehabilitation services as appropriate;
   - b. accept for vocational training those students/clients referred by Vocational Rehabilitation and Special Education as funding and space limitations will allow and comply with requirements and conditions as set forth in the state plan;
   - c. participate in the development of an Individualized Education Program (IEP) and an Individualized Written Rehabilitation Program (IWRP) for each handicapped student/client in accordance with guidelines established by pertinent agencies;
   - d. participate in planned conjoint in-service and staff development training with Vocational Rehabilitation and Special Education staff.
3. Division of Special Programs shall:
   - a. provide technical assistance to local education agencies to assure:
     - (1) handicapped students have been offered prerequisite personal adjustments and prevocational skills prior to being referred to Vocational Education;
     - (2) placement of handicapped students in Vocational Education programs is based on Individualized Education Programs (IEP) as specified in the Program for Exceptional Children, Regulations and Procedures, October 1978, and requirements and conditions reflected in the state plan.
   - b. recommend that local education agencies involve Vocational Education and Vocational Rehabilitation staff in the writing of the individualized education programs for handicapped secondary students;
   - c. assure that local education agencies are aware of services available from Vocational Rehabilitation and the requirements for eligibility for such services.
4. It is agreed that the exchange of confidential student/client information between the agencies included in this agreement shall be in compliance with the Family Rights and Privacy Act of 1974 (P.L. 93-380, Section 438) and other rules and regulations adopted by said agencies.
5. It is further agreed that a representative from each state agency shall be responsible for coordinating the development of the interagency program and for providing technical assistance to local education agencies and rehabilitation agencies.
6. It is agreed that the agencies shall jointly develop and issue interagency guidelines to local education agencies and rehabilitation agencies specifying types of services that will be available from each agency.
7. It is agreed that this agreement shall be jointly reviewed at least annually and updated according to any changes in federal or state regulations.

agency agreement. If they choose to do so, local vocational education, special education, and vocational rehabilitation staff can jointly determine how services will be delivered, decide on issues of local concern, and determine responsibilities of each discipline area.

Vocational personnel working with special needs learners should contact the State Department of Education and local administrators for information about state or local cooperative interagency agreements. These agreements provide information concerning specific roles and responsibilities of the disciplines involved in providing services to these individuals. Specific issues to be addressed in a local agreement should include:

1. administrative relationships and operating policies (e.g., eligibility guidelines, operating procedures);
2. service to be provided;
3. specific referral procedures for eligible individuals;
4. provisions for exchanging appropriate information;
5. financial policies and procedures;
6. roles and responsibilities of personnel involved in providing services.

Cobb and Kingsbury (1985) state that ultimately, cooperative agreements will help expand the boundaries of vocational education beyond the school walls and improve its ability to provide training activities special students need.

An example of a local interagency agreement (see Figure 6.2) is described by Kingsbury (1985).

The agreement was developed between vocational education and a variety of agencies in the Willmar area. In Minnesota, as in other states, an emphasis has been on developing interagency agreements on both the state and local levels. The Department of Economic Security, the Division of Vocational Rehabilitation, the Minnesota Department of Education, and the State Board of Vocational Technical Education have tried to foster the development of joint services on the premise that all school-aged handicapped individuals and handicapped adults be provided with services that provide for appropriate education and training.

CONTRIBUTIONS FROM STATE PERSONNEL TOWARD LOCAL INTERAGENCY AGREEMENTS

It is the responsibility of the State Education Agency to monitor local interagency agreements to ensure that appropriate services are provided to handicapped students. Tindall (1982) states that state personnel can provide valuable assistance to local education agencies developing or implementing interagency agreements. Many states have guidelines that can be used to draft an initial interagency agreement. These guidelines include the roles and responsibilities of each cooperating agency, summaries of current federal and state laws, and the components necessary for an effective agreement. These written agreements can be shared with localities that have not drafted one. State personnel often offer developmental workshops where topics related to interagency collaboration are discussed. State personnel can also act as consultants to local teams to provide necessary information and resources that will facilitate the negotiating and writing of an interagency agreement.

Figure 6.3 shows an example of a monitoring checklist used in reviewing local school districts. In this figure, Related Vocational Instruction (RVI) refers to a support person certified in special education whose full-time responsibility is to work with mainstreamed handicapped students enrolled in regular education programs. An individualized written rehabilitation plan (IWRP) refers to a mandated document that must be developed for each handicapped individual serviced by Vocational Rehabilitation Services. Similar to the individualized education program (IEP), this document includes long-range rehabilitation goals and intermediate rehabilitation objectives for the individual; specific vocational rehabilitation services to be provided, with a projected initiation date and duration date for each; evaluative criteria for each of the objectives; and a schedule for determining whether goals and objectives have been met.

BARRIERS TO INTERAGENCY COLLABORATION

A number of barriers can complicate interagency collaboration. Among these are:

1. the roles and responsibilities among members of a team working together may be poorly understood;
2. a single individual may dominate the team operation (personality styles and group dynamics);
3. job-related stress may result from unclear goals and objectives;
4. inability of individuals to link their expertise to those of the other team members;
5. trust and respect may be missing among team members;
6. administrative barriers may be present;
7. philosophical differences may exist among agency representatives;

Figure 6.2

LOCAL INTERAGENCY AGREEMENT

PARTICIPATING AGENCIES: West Central Industries, Career Assessment Center, Division of Vocational Rehabilitation, Willmar Job Training Office, and the Little Crow Special Education Cooperative.

PURPOSES: (1) Joint planning and funding of formalized vocational assessment for school-age handicapped students ages 16 through 21; (2) Joint development of an Individual Career Plan (I.C.P.) for each handicapped student eligible for services from the participating agencies; the I.C.P. will become an integral part of the handicapped student's Individualized Educational Program, I.E.P.; (3) Consistent coordination, follow-up and case management by all participating agencies; (4) Preparation of each handicapped student for appropriate training, work, and living options following graduation from high school.

A. ELIGIBILITY CRITERIA:

(1) General: Handicapped students will be eligible for assessment under this interagency agreement between the ages of 16 and 21 (as of September 1st of each school year).

(2) Special Education:

2.1 To be eligible, a student must have a currently approved I.E.P. on file.

2.2 The child-study team (IEP team) must concur that an extensive vocational assessment is needed.

(3) Willmar Job Training Office (WJTO)

3.1 Under WJTO, students are eligible beginning at age 16 and up.

3.2 A student must be handicapped or economically disadvantaged.

3.3 Income guidelines can be waived if a student has a handicap that represents a barrier to employment.

3.4 Final acceptance will be determined by the WJTO selection committee.

(4) Division of Vocational Rehabilitation (DVR):

4.1 Age eligibility begins at 16 and older.

4.2 A student must have a disability which constitutes a vocational handicap.

4.3 There must be a reasonable expectation that services given will be of value to the student.

4.4 Prior to DVR involvement, a medical and psychological evaluation are required.

B. REFERRAL PROCESS:

(1) Prior to referral, each agency is encouraged to initiate consultation with the school's child-study team for the purpose of career planning and making appropriate referrals for vocational assessment.

(2) Assessment at West Central Industries:

2.1 West Central Industries will commit itself to 10 formal assessments of school-age handicapped students per year as per this agreement. Five of these will be scheduled at least one month in advance and five could be scheduled on short notice.

2.2 A general medical exam, a psychological exam, social history, and relevant educational information including a copy of the Individualized Educational Program, are needed as part of the referral to West Central Industries. The representative from DVR must be included on the child-study team if this agency is involved in planning and financing the assessment.

2.3 A current psychological evaluation (within one year of the referral) will be provided by the school.

2.4 The referral will be made by the child-study coordinator at each local school.

(3) Referrals to the Career Assessment Center:

3.1 The Career Assessment Center will commit itself to 50 formal assessments of school-age handicapped students per year.

3.2 A psychological evaluation, social history, and relevant educational information, including a copy of the IEP, are needed as part of the referral to the Career Assessment Center. Representatives for DVR and WJTO must be included in planning and financing the assessment.

3.3 A current psychological evaluation (within one year of the referral) will be provided by the school.

3.4 The referral will be made by the child-study coordinator in each local school.

Figure 6.2 continued

C. ASSESSMENT:

(1) The following guidelines describe the assessment process at West Central Industries:

- 1.1 The duration for a complete vocational assessment at West Central Industries will be four weeks. Durations of less than four weeks will be considered on an individual basis.
- 1.2 Assessments may include work samples, psycho-metrics, situational work assessments.
- 1.3 Written and oral reports will be given at the staffing conducted at West Central Industries.
- 1.4 West Central Industries will schedule the team staffing which, at a minimum, must include: a representative from DVR or WJTO, if involved, the student, at least one representative from the schools. Every effort will be made to include the parents in the staffing. Other involved parties will be invited as appropriate.
- 1.5 Recommendations from the assessment will be incorporated into the student's Individual Career Plan (I.C.P.) which will become an integral part of the overall Individualized Educational Program (I.E.P.).

(2) Assessment at the Career Assessment Center:

- 2.1 The duration for assessment at the Career Assessment Center will typically be five days, but will be extended if necessary.
- 2.2 The assessment will include work samples, psycho-metric testing, and career exploration and may include job training try-outs and/or job shadowing as available.
- 2.3 Written and oral reports will be given at the termination staffing conducted at the Career Assessment Center or at the student's home school.
- 2.4 The Career Assessment Center will be responsible to arrange the staffing which at a minimum must include: a representative from DVR or WJTO if either agency is involved, the student, at least one representative from the school. Every effort will be made to include the parents in the staffing. Other involved parties will be invited as appropriate.
- 2.5 Recommendations from the assessment will be incorporated into the student's Individual Career Plan (I.C.P.) which will become an integral part of the Individualized Educational Program (I.E.P.).

D. CASE MANAGEMENT:

(1) The Career Assessment Center and West Industries may be involved with the schools on a consultative basis for follow-up.

(2) WJTO and DVR will be involved with the school in an on-going basis for planning and follow-up.

E. FISCAL RESPONSIBILITIES:

(1) For assessments at West Central Industries:

- 1.1 The charges at West Central Industries will be $165 per week and an initial screening fee of $40 per student.
- 1.2 The schools will be responsible for 50% of the bill and DVR and WJTO will be responsible for the other 50% of the bill if either agency is involved in planning and financing the assessment.
- 1.3 The schools will assume the responsibility for transportation.
- 1.4 The cost for meals and coffee breaks are the responsibility of the parent or the student.
- 1.5 Fiscal support from any party involved in this agreement will be contingent upon availability of funds.
- 1.6 Other funding arrangements beyond those discussed above may be made on an individual basis.

(2) Financing assessments at the Career Assessment Center:

- 2.1 The cost per week at the Career Assessment Center will be determined later as during the current school year (82–83) the program is fully financed by the state.
- 2.2 If a local cost is determined for the 83–84 school year, this fee will be equally shared by the schools and by either DVR or WJTO.
- 2.3 The schools will be responsible for transportation of students to the Career Assessment Center.
- 2.4 The cost for meals and coffee breaks are the responsibility of the parents or student.
- 2.5 Fiscal support from any party involved in this agreement will be contingent upon availability of funds.
- 2.6 Funding arrangements other than those discussed above may be made on an individual basis. (1982)

Figure 6.3

MONITORING CHECKLIST TO ASSURE COOPERATIVE PLANNING FOR HANDICAPPED STUDENTS IN VOCATIONAL PROGRAMS

1. Number of secondary-aged (grades 9–12) handicapped students enrolled or receiving vocational services through:

	Special Education	Vocational Education	Rehabilitation Services
Mildly mentally handicapped			
Moderately mentally handicapped			
Severely mentally handicapped			
Orthopedically handicapped			
Learning disabled			
Behavior disordered			
Hearing impaired			
Visually impaired			
Speech and language impaired			
Severely emotionally disturbed			

2. General Information

	Yes	No	Comments
a. Are IEPs developed jointly with involvement from those agencies providing services?			
(1) Special needs instructor			
(2) Vocational education instructor			
(3) Vocational rehabilitation services			
(4) Other—please specify. ________________ ________________ ________________			
b. Are IWRPs developed jointly with involvement from those agencies providing services?			
c. Is a complete IEP on file?			
d. Is the IWRP on file?			
e. Is there a local written agreement between Vocational Rehabilitation Services, Vocational Education and Special Education?			
f. Does the local education agency (LEA) involve appropriately identified handicapped students in vocational education programs?			
(1) Are instructional materials and equipment provided that would enable handicapped students to profit from instruction?			
(2) Are existing vocational education programs adapted or modified, as necessary, in order for handicapped students to profit from instruction?			
(3) Are vocational education programs accessible to physically handicapped students?			
(4) Does the instructor have a copy of the IEP on file for each of his/her handicapped students?			
(5) Does the LEA determine and report all appropriately identified handicapped students enrolled in vocational education programs?			

Figure 6.3 continued

2. General Information

	Yes	No	Comments
g. Does the LEA have a comprehensive high school?			
h. Does the LEA have a special needs coordinator program? If yes, are all guidelines appropriately followed?			
(1) Provides access to a sufficient number of vocational education areas to allow effective implementation the IEP.			
(2) Assigns a certified special education teacher from the system's Section 5 allotment on a full-time basis to the duties and tasks outlined in the RVI job description or program of work.			
(3) Have established in addition to RVI at the secondary level, a full continuum of special education services.			
(4) Utilizes the state allotted funds within the guidelines for:			
(a) Purchasing instructional equipment and materials.			
(b) Full-time or half-time services of a certified teacher aide and contracted services.			
(c) Extended day and/or extended year contracts.			
(d) Travel			
(5) Provide for participation of RVI personnel in appropriate staff development and inservice activities.			
(6) Assigns to each RVI program the maximum active caseload of not more than 22 due processed handicapped students who are enrolled in vocational education programs, grades 9–12.			
i. Are the following vocational rehabilitation services currently provided to handicapped students?			
(1) Vocational counseling			
(2) Vocational evaluation (a) Medical evaluation (b) Psychological evaluation			
(3) Planned vocational rehabilitation services (IWRP) (a) Medical treatment services (b) Psychological treatment services (c) Adaptive equipment/devices (d) Prosthetics/Orthotics (e) Vocational training (f) Job placement			
j. Are cooperative inservice and staff development activities provided locally?			

3. List vocational education programs in which handicapped students participate; i.e., construction trades, metals, etc.

____

____

4. Describe specific vocational services that are available for the severely handicapped.

____

____

Completed by ________________

Position ________________

Date ________________

(State of Georgia Department of Education)

8. lack of commitment of the part of team members;

9. perception on the part of one or more team members that another member is less qualified than the remainder of the group representatives;

10. a diversity in the amount or level of professional training of team members;

11. poor communication among individuals from different professional backgrounds;

12. lack of flexibility of team members and/or the agencies they represent (e.g., inflexible schedules, limited planning time, lack of support from supervisors);

13. inability of team members to delegate and share responsibilities based on the various strengths of team members;

14. lack of skills in decision-making, problem-solving and conflict resolution on the part of team members;

15. lack of authority on the part of team members;

16. feelings of territoriality or "turf protection" on the part of team members (rivalry, professional insecurity); and

17. new and different terminology used by various team members, especially from different agencies or disciplines.

FACILITATORS TO INTERAGENCY COLLABORATION

Greenan (1980) states that interagency linkage teams that effectively work together possess many of the following characteristics:

1. Participants work together to identify problems which are common to the group. They consider the handicapped student, labor, equipment, knowledge of services to be provided and monies available.

2. They explore all possible solutions and choose those solutions which will be most beneficial to handicapped students.

3. There is a constant desire to keep the commitments alive and to expand the interagency linkages when and where necessary to benefit the handicapped student.

4. Ideas are shared between local and state levels.

5. The interagency team encourages and supports local level services providers and handicapped persons.

6. A good community spirit or atmosphere exists towards the education and employment of handicapped people.

7. There is a desire to decrease the overlap in services, and the fear of losing prestige or jobs by eliminating overlapping services is not dominant.

8. The objective of the cooperating agencies are compatible and agency personnel feel that cooperation will be of mutual benefit.

9. Agencies have a referral system which sends clients to the agency with the best resources to help the individual (p. 62).

COOPERATIVE PLANNING

Cooperative planning is an effort coordinated by various individuals and agencies to provide a comprehensive and realistic instructional plan for a specific learner. A team approach is used in the cooperative planning process. The team members include professionals in the school, representatives of agencies and organizations, advisory committees, employers, and parents/guardians.

Singletary (1973) made the following statement about cooperation that still remains true today.

> Cooperation is a lot easier to talk about than to achieve. We need the feeling of security and mutual respect, so that as someone has said, there will not be the feeling that we are "doing" while the other group is "operating." To attain this elusive goal, we must fight off the most negative of human emotions. . . That is, suspicion of other professional groups, concerns for our own insecurities and worries about potential loss of status and prestige.

Several considerations must be addressed before the cooperative planning process can succeed. The individuals represented on the cooperative planning team must have a positive attitude toward special needs learners and a commitment to assist these learners in regular vocational programs. Appropriate placement options must also be available if realistic cooperative plans developed for the learner will depend on such variables as the flexibility of the learner's schedule and the availability of necessary support services. Cooperative planning is necessary for maximum development of a special needs learner's vocational potential.

Figure 6.4 shows the components of the cooperative planning process.

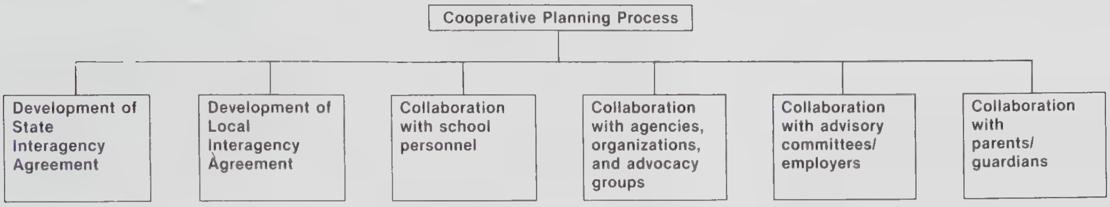
Identifying Existing and Duplicated Services

Related services for handicapped students, as identified by Public Law 94-142, include transportation, speech pathology and audiology, psychological services, physical and occupational therapy, recreation, counseling services, medical services for diagnostic or evaluation purposes, school health services, social work services in schools, and parent counseling and training.

Other support services that may be needed to help special needs students succeed in vocational programs include:

Figure 6.4

COMPONENTS OF THE COOPERATIVE PLANNING PROCESS


Cooperative Planning Process
Development of State Interagency Agreement
Development of Local Interagency Agreement
Collaboration with school personnel
Collaboration with agencies, organizations, and advocacy groups
Collaboration with advisory committees/ employers
Collaboration with parents/ guardians

1. diagnostic/prescriptive
2. referral
3. guidance
4. psychological
5. medical
6. occupational therapy
7. physical therapy
8. remedial reading
9. remedial math
10. technical tutoring
11. homebound instruction
12. reader and interpreter
13. communication skills development
14. transportation
15. job-seeking and job-keeping skill development
16. job placement
17. job follow-up
18. work experience and career exploration
19. curriculum modification and development
20. equipment/facilities modification and development
21. instructional material modification and development
22. parent counseling and training
23. social and recreational.

The following is a process for identifying existing and duplicated services for special needs learners.

1. *Stage One: Sharing Agency Information* - Before collaborative planning can take place the members of the team must understand the role, function, and operating procedures of the other agencies involved. Figure 6.5 shows an agency collaboration worksheet that will provide an overview of the philosophy, goals, clients served, eligibility criteria for services, services provided, staffing patterns, funding sources, data collected, and relevant terminology for each contributing agency.

2. *Stage Two: Identifying Necessary Services* - The services needed for special needs learners to participate and succeed in vocational programs as well as job-seeking and retention activities must be identified. Figure 6.6 shows a worksheet that can be used in interagency planning to identify necessary or supplemental services and also to determine whether these services are unavailable or are available through one or more agencies.

This list is only a general list of services, and some services may not be appropriate for every local interagency plan. Additional services needed by special needs individuals in a specific locale should be added to this general list.

3. *Stage Three: Identifying Shared Services* - Once necessary services have been identified it must be determined whether or not there is a gap or duplication of service delivery. Figure 6.7 can be used to determine how services will be delivered. If the service is unavailable, plans should be made for one agency to make provisions for it, or two or more agencies may share responsibility for the service. In the case of duplicated services it should be determined which agencies will share the responsibility for making the service available and what part of the cost each shall assume.

Figure 6.8 is an example of a local cooperative plan for providing services to special needs individuals.

Figure 6.5

AGENCY COLLABORATION

Area of Concern	Vocational Education	Special Education	Rehabilitation Services	Other Agencies (Specify)
I. Philosophy and Goals for Agency				
II. Clients Served (description)				
III. Age Ranges for Providing Services				
IV. Eligibility Criteria for Services				
V. Services Provided (see "Providing services" Worksheet)				
VI. Staffing Patterns and Ratios				
VII. Funding Sources and Patterns				
VIII. Source of Evaluating Services Provided				
IX. Data Collected for Reports, etc.				
X. Terminology Relevant to Agency				

Figure 6.6

IDENTIFYING NECESSARY SERVICES WORKSHEET

			Availability of Service: (Amount, frequency and cost)			
Service	Necessary or Supplemental Service	Unavailable	Vocational Education	Special Education	Rehabilitation Services	Other Agencies (Specify)
personal counseling						
family counseling						
career counseling						
career exploration						
vocational assessment						
vocational training						
work adjustment program						
work experience or co-op						
job placement						
on-the-job training						
faculty/staff in-service training						
employer/employee sensitization						
public awareness						
employability skills						
prevocational skills						
independent living skills						
transition services						
academic remediation						
academic diagnostic assessment						
providing adaptive equipment/aids						
transportation (e.g., to work site)						
referral services						
guidance services						
psychological services						
medical services						
occupational therapy services						
physical therapy services						
remedial reading services						

Figure 6.6 continued

			Availability of Service: (Amount, frequency and cost)			
Service	Necessary or Supplemental Service	Unavailable	Vocational Education	Special Education	Rehabilitation Services	Other Agencies (Specify)
remedial math services						
technical tutoring services						
homebound instructional services						
reader and interpreter services						
communication skill development services						
job seeking and job keeping skill development services						
job follow-up services						
work experience and career exploration						
curriculum modification and development services						
equipment/facilities modification and development services						
instructional material modification and development services						
social and recreational experiences						

Figure 6.7

SERVICE DELIVERY WORKSHEET

Services Not Available from Any Agency	Duplicated Services	Services More Appropriately Provided through Cooperative Planning		
		Service	Agency/Agencies to Provide Service	Cost to Each Agency

Figure 6.8

EXAMPLE OF LOCAL COOPERATIVE PLAN FOR PROVISION OF SERVICES TO SPECIAL NEEDS INDIVIDUALS

Identified Need for Special Needs Learners	Services Necessary to Meet Identified Need	Provider(s) of Services
Funding 1. Administrative support 2. Public and private	1. Additional staff, equipment, materials, transportation, and modification to equipment and physical facilities	1. Federal, state, local, private agencies
Assessment 1. Psychological 2. Medical 1. Vision 2. Hearing 3. Intellectual capacities 1. Communication 2. Language and speech 3. Comprehension 4. Interest inventories 5. Personal and social skills 1. Daily living skills 2. Survival skills 3. Employability skills 6. Aptitude 7. Mobility 8. Vocational background 9. Work sample experiences 10. On-the-job training experiences	1. Psychological testing 2. Medical examination(s) 3. Rehabilitation services 4. Testing, observation 5. Interest inventories 6. Behavior management 7. Counseling (personal, vocational)	1. Psychologists/psychometrists 2. Medical staff 3. Rehabilitation services 4. Special educators/appropriate school personnel 5. Records 6. Work activity centers 7. Sheltered employment staff 8. Therapists 9. Clinicians
Parental involvement	1. Parent and staff sessions (discussion and training sessions) 2. Encourage involvement in staffings and IEP updates 3. Solicitation of parent participation, such as parent advocacy and parent to parent	1. Educational and training staff 2. Consultants 3. Parents
Transportation	1. Transportation to and from: a. On-the-job training sites b. Competitive employment sites c. Assessment sites d. Medical services sites e. Mobility training services sites	1. Local education agency 2. Local employers 3. Parents 4. Rehabilitation services personnel 5. Volunteer staff 6. Local/city/state governments 7. Community service organizations
Medical Services	1. Physical exams 2. Psychological testing 3. Counseling 4. Occupational therapy 5. Physical therapy 6. Speech therapy 7. Vision/hearing testing 8. Medicaid/Medicare services	1. Nurses 2. Psychologists 3. Psychiatrists 4. Occupational therapists 5. Physical therapists 6. Speech therapists 7. Rehabilitation services 8. Doctors 9. Local health department or trained personnel within the school system 10. Social security office
Public relations - community business and industrial awareness	1. Inservice sessions for staff 2. Identification of jobs available in community 3. Canvassing of skills needed for job 4. Public service announcements on radio, TV and newspapers 5. Addresses at business group meetings 6. Addresses at civic organization meetings 7. Radio and TV interviews 8. Job fairs	1. School staff 2. Business and industrial personnel 3. Media 4. Civic group offices and members

Figure 6.8 continued

Identified Need for Special Needs Learners	Services Necessary to Meet Identified Need	Provider(s) of Services
Physical modifications - facilities, equipment, tools	1. Removing physical barriers by making entrances and facilities accessible 2. Modifying machinery (jigs, etc.) so physically handicapped students can use them 3. Providing lower level reading materials when needed 4. Providing interpreters (oral or manual) 5. Providing note takers and readers 6. Providing specialized equipment such as reading machines, tape recorders, writing aids, etc.	1. Federal, state and local agencies 2. Rehabilitative services 3. Service organizations 4. Private sector agencies 5. Engineers, technicians and architects 6. Advocacy groups
Curriculum modification	1. Basic skills 2. Career awareness 3. Pre-vocational 4. Independent living skills 5. Identification of multiple exit points in each vocational area 6. Prepared pretests and post-tests 7. Utilization of appropriate instructional techniques (e.g., task analysis) 8. Utilization of instructional materials 9. Utilization of evaluation techniques 10. Adequate time allowed	1. Special education personnel 2. Related Vocational Instruction (RVI) coordinators 3. Vocational personnel 4. Administrators 5. Vocational evaluators 6. Vocational counselors 7. University personnel 8. Parents
Inservice	1. Provision of inservice for all personnel, including: a. Special ed. teachers b. Vocational teachers c. Related Vocational Instruction coordinators d. Administrators e. Paraprofessionals f. Counselors	1. Administrators 2. University personnel 3. State Department of Education 4. Local school systems 5. Consultants 6. Resource people 7. Agencies
Job Placement and Follow-up	1. Job placement services 2. Observation 3. Data collection 4. Job site evaluation checklist 5. Vocational adjustment counseling	1. Special education teachers 2. Related Vocational Instruction coordinators 3. Rehabilitation service counselors 4. Co-workers and employers 5. Other appropriate school personnel
Counseling	1. Vocational counseling 2. Personal counseling (individual and group therapy)	1. School counselors 2. Vocational counselors 3. Special education 4. Related Vocational Instruction personnel 5. Rehabilitation counselors 6. Employers 7. Parents 8. Psychologists of appropriate services
Work experience	1. Vocational education programs/ occupational training classes 2. Workshop settings 3. Work stations within industry 4. Rehabilitation services/facilities	1. Rehabilitation services personnel 2. Business and industry 3. Sheltered employment programs

Adapted from: Sarkees, M., and Stephens-Fleuren, S. (Eds.). (1984). *Working with moderately and severely handicapped students in vocational education.* Athens, GA: University of Georgia, Division of Vocational Education.

COOPERATIVE PLANNING WITH AGENCIES AND ORGANIZATIONS

Community agencies, organizations, and advocacy groups can often offer services that are not readily available in the school system. As much cooperation as possible should be developed with these groups, and existing services should be used to provide appropriate vocational programs and support services for special needs learners.

Vocational education programs should make initial contacts with outside agencies and community services, especially when they can effectively supplement vocational activities. In many cases, vocational education personnel do not have the expertise and skills necessary to deliver services that are available from these outside sources.

Gemmill and Kiss (1979) divide community resources into four major categories: (1) federal and state agencies; (2) community agencies and organizations; (3) business, industry, and labor organizations; and (4) citizen and special interest groups. Some examples in each of these areas are presented below:

1. Federal and state agencies provide services to their local and regional offices. Such services include financial support, job training and placement programs, housing, health, youth programs, consumer information, legal aid, etc.
   a. legal services
   b. armed services
   c. state employment services
   d. state agency or school for the blind
   e. state agency or school for the deaf
   f. State Department of Welfare
   g. mental health agency
   h. public health service
   i. social services
   j. adult continuing education
   k. student financial aid
   l. Office of Economic Opportunity
   m. civil service
   n. Rehabilitation Services Administration
   o. Bureau of Indian Affairs
   p. Social Security Administration
   q. Veterans Administration
   r. employment services
   s. correctional facilities.
2. Community agencies and organizations provide such services as youth recreation, counseling and tutoring, employment and job training, foster care placement, and leadership development. Some examples may include:
   a. Chamber of Commerce
   b. YMCA/YWCA
   c. drug and alcohol abuse centers
   d. child abuse/women's shelters
   e. mental health/mental retardation guidance clinics
   f. probation and paroles
   g. children and youth services
   h. Governor's Committee on Employment for the Handicapped
   i. foster homes
   j. halfway houses
   k. community action programs
   l. Jobs—National Alliance of Businessmen
   m. Urban League
   n. library services programs
   o. migrant programs
   p. bilingual programs
   q. dropout prevention programs
   r. Parent-Teacher Associations
   s. Goodwill Industries
   t. Association for Retarded Citizens (ARC)
   u. Association for Children with Learning Disabilities (ACLD)
3. Business, industry, and labor organizations are good sources of field trips, guest speakers, job opportunities, and occupational and product information.
   a. trade/labor union representatives
   b. advisory committee members
   c. employees
   d. personnel offices
   e. industrial supervisors
4. Citizens and special interest groups typically offer scholarship programs, legal aid, day care, transportation, etc.
   a. Lions Club
   b. Kiwanis
   c. Rotary
   d. churches
   e. women's clubs
   f. Crisis Intervention Center
   g. Sertoma
   h. Elks
   i. parents
   j. trained but not practicing teachers
   k. retired citizens.

Beachum (1975) identifies a variety of ways in which agencies and other groups can assist in the cooperative planning process. They can:

1. conduct workshops, seminars, and conferences to assist teachers, counselors, and principals in working successfully with disadvantaged/handicapped students;
2. conduct sensitivity sessions, workshops, or other situations to help disadvantaged/handicapped students

and their parents to work cooperatively with teachers and other school personnel;

3. volunteer tutorial services to assist overloaded teachers with special needs learners;
4. volunteer to chaperone field trips, parties, vocational student organization (VSO) sponsored activities;
5. improve the funding for instructional programs;
6. improve city transportation so that disadvantaged and handicapped students and their parents can get to and from work;
7. provide better health, vocational, and family counseling services to disadvantaged and handicapped parents and their children;
8. provide scholarships, monies, and other financial assistance;
9. share with schools information and expertise gained from employability programs.

COOPERATIVE PLANNING WITH ADVISORY COMMITTEES AND EMPLOYEES

Local advisory committees are groups of individuals from the community that advise vocational educators about planning, implementing, and maintaining programs. Under the provisions of vocational education legislation each local education agency must establish a vocational education advisory committee in order to receive funds.

Membership for vocational education advisory committees should be selected from a variety of community sources, although the major portion of the committee should be composed of representatives from the business and industrial sector. Other sources include:

1. Chamber of Commerce
2. labor departments
3. labor unions
4. state and community agencies
5. employers of program completers
6. prospective employers
7. local government
8. clergy
9. local newspapers
10. local management
11. parents
12. handicapped and disadvantaged individuals/advocates

The primary function of a vocational education advisory committee is to help plan a sound training program that will meet the needs of the students enrolled as well as the manpower needs of the community. Cooperative planning with vocational education advisory committees can help vocational personnel provide appropriate opportunities for special needs learners. Specific services that can be provided by this valuable resource include:

1. assistance in planning programs that would be appropriate and realistic for special needs learners;
2. advice concerning appropriate program objectives, curriculum content, and occupational competencies to be included in programs;
3. identification of community resources that may help special needs learners succeed in programs;
4. assessing the educational and manpower needs of the community (possibly through a needs survey);
5. identification of entry-level job proficiencies;
6. establishing and promoting positive community public relationships;
7. advice concerning equipment, laboratory, and facilities modifications for special needs learners;
8. assistance in locating potential on-the-job training sites for special needs learners who require further reinforcement during or after completion of a specific program; and
9. assistance in identifying job placement situations for special needs learners.

The Illinois State Board of Education suggests that collaboration is best exemplified when advisory committees demonstrate certain characteristics:

1. Membership is representative of the major groups concerned with and involved in improving education, training, and competitive employment opportunities for individuals with special needs. For instance, collaborative activities and directions should be established which will join and serve more than two sectors (i.e., special education, vocational education, rehabilitation, Job Training Partnership Act (JTPA), business/industry). Advisory Committees should treat the collaborating institutions/agencies as equal partners. Although in particular instances, the strength and interest of one or two organizations may predominate, the goal of the council should be to meet multiple purposes rather than those of a few.

2. Advisory Committees are self-organized. Although perhaps initially sponsored by one organization (e.g., secondary-school special education), the committee, once organized, should be responsible for its own continuity. The agenda should not be directed by any one of the collaborative partners. Over time, responsibility for leadership of the council should be rotated and shared appropriately.

3. Advisory Committees are performance-oriented. The membership should develop their own agenda and approaches to addressing the employment and education needs and concerns of the special needs individuals in their community. Although a major role may be advisory, the committees may engage in activities which

include fact-finding, project operation, program development, and program brokering.

4. Responsibility for implementing the action plans developed by the committee is shared. Because the members comprising the committee are the active leaders in their respective organizations, the effectiveness of collaborative efforts is greatly enhanced when shared interest results in mutual action. Examples of such activities include:

- conducting a needs assessment of the local community's perceptions of education and training needs of handicapped and disadvantaged persons (research);
- developing and publishing a newsletter that highlights exemplary education, rehabilitation, and industry training programs for handicapped and disadvantaged persons (public awareness);
- facilitating site visits to businesses and industries by high school and community college special needs students for on-site presentations and interaction with people at work (student development);
- working with vocational teachers, special education teachers, and counselors to modify their curriculum and instructional processes to meet the career development and skill training needs of handicapped and disadvantaged persons (staff development); and
- establishing school/business partnerships (e.g., equipment donation and/or sharing program) which will actively work to expand and enrich the students' career development and training experiences (administrative policy concerns).

Each sector participating on an advisory committee will have its own particular needs and concerns related to preparing handicapped and disadvantaged individuals for competitive employment. Each will have some hesitations, biases, and practical considerations about such involvement. However, there will also be some very important shared concerns: the quality of life in the community; quality of education; the future of economic competitiveness; and the development of the individual which results in capable, dedicated, and motivated individuals with pride in themselves (p. 8).

Developing a Local Business and Industry Resource Directory

The specialized experiences and knowledge provided by community-based business resources can provide enriching experiences, both school-based and on-the-job, for special needs learners. These resources should be incorporated into the local interagency agreement.

Full use of all resources in the community provides and improves educational and training programs for special needs learners. In order to use these resources to the fullest capacity they must first be identified. Available resources are often not used because of a lack of awareness of their existence. An inventory of services and resources can offer new and expanded opportunities for these learners. These services may include counseling services, employability skills training, job-seeking and retention simulation experiences, tutorial services, apprenticeship projects, and career exploration activities.

Resources placed in a local business and industry directory are categorized into the areas of human and material resources. Human resources refer to individuals willing to share their expertise and training with school-based personnel (e.g., seminars, on-site technical assistance, topical workshops) and special needs learners (e.g., shadowing experiences, classroom lectures, industrial tours). Material resources refer to financial assistance or material contributions to be used for scholarships, field trips, project supplies, tuition, equipment, and other needs.

One source of entries to the directory can be provided by advisory and craft committee members associated with the local vocational programs. They can provide information about available community services. Another source is the community resource directories such as those developed by social service agencies. It is important that the information in these directories is validated and updated prior to entering it in a local business and industry directory.

Another resource is a community survey conducted either by mail, in person, by phone, or through a combination of these techniques. Surveys help identify additions to the directory that can provide career development, training, job placement, or supplementary resources for special populations. Contact with these resources can alert them to how they can help handicapped and disadvantaged individuals develop their vocational potential.

In developing the local business and industry directory the format should reflect the following important information:

1. name of the company/organization
2. address and phone number of the company/organization
3. type(s) of available resources
4. purpose(s) of available resources
5. restriction(s) to availability of resources
6. name of contact person
7. special considerations.

The local business and industry directory should be disseminated and publicized widely in both educational and industrial circles. It should be updated on a regular basis.

COOPERATIVE PLANNING WITH PARENTS/GUARDIANS

Parents/guardians are very important in the cooperative planning process. They probably know the student better than any professional in the school system and are very influential in the growth and development of the student. They have valid questions and concerns that should be addressed when planning an instructional program for the special needs individual. Some questions they may raise during the cooperative planning process include:

1. Does the vocational program meet the needs of the student?
2. Is the vocational program the best available placement for the student? Have all realistic options been discussed? Has the student been provided with appropriate career exploration activities and/or career counseling?
3. Will necessary support services be provided to help the student succeed in the program? Will the student be able to keep up with others in the program? Will extended time in the program be allowed if necessary?
4. Will the student be accepted by peers in the program?
5. Will the vocational teacher understand the needs of the student? Will the teacher discriminate against the student because he or she has special needs?
6. Will the student have a job once he or she successfully completes the program? Will the student have the necessary entry-level proficiencies upon completion of the program?

For many years schools were responsible for testing, placing, instructing, and evaluating all students. Now, a strong emphasis is placed on the role of parents/guardians in the educational planning process. This emphasis is seen in the Education for All Handicapped Children Act (Public Law 94-142), which mandates that parents be included in planning the individualized education program (IEP) for each handicapped learner. Parents of handicapped learners are now entitled by law to share in the educational planning and confidential treatment of records. Parents are now asked to take their rightful place in working with school personnel and outside agencies to provide the best possible educational opportunities for their children.

Parents who are kept informed of programs in school are much more willing to help meet cooperative objectives. Parents have a right to know about the vocational program that their child is to be enrolled in. They need to be informed of pertinent information regarding program objectives, specific skills to be taught, and entry-level job opportunities.

It is advantageous to involve parents/guardians in the cooperative planning process because they can lend encouragement and reinforcement at home that will help to motivate the student. They can apply behavior modification techniques, assist the student in related instruction, lead and participate in career guidance discussions, and report to school personnel any problems that arise at home relating to participation in the vocational program.

Recently, educators and business/industry personnel have recognized the need for collaborative efforts in career planning for students. They have also recognized the importance of developing programs for involving parents. The following strategies are suggested collaboration activities:

1. Conduct meetings to increase parents' understanding of curricula and activities being offered in the school for handicapped and disadvantaged persons (i.e., linkages between subject matter and careers, cooperative programs between schools and local businesses/industries).
2. Conduct joint meetings of parents, educators, community organization representatives, and business/industry persons to address the need for basic skills, employability skills, and specific job skills for handicapped and disadvantaged persons.
3. Publish informational materials that will provide parents with suggestions and activities for providing (home based) career experiences that will complement those offered in school.
4. Provide parents with opportunities to serve as career resource persons in their children's classrooms.
5. Provide parents with opportunities to assist school personnel in obtaining, cataloging and updating career education resource materials.
6. Open up business and industry settings on weekends for field trips for special needs youth and their parents who are interested in learning more about competitive employment options (*Industry-Education Collaboration for Special Needs Youth and Adults,* Illinois, p. 10).

COOPERATIVE PLANNING WITH SCHOOL PERSONNEL

Vocational education personnel cannot be expected to accept the full responsibility of planning, implementing, and evaluating appropriate vocational training programs for special needs learners. Cooperative planning is essential if necessary services are to be provided. The success of these individuals in vocational programs depends to a great degree on the cooperative relationships established among school personnel.

A team approach is usually the best method to ensure that handicapped and disadvantaged learners receive appropriate evaluation activities, guidance and counseling services, supplemental services, instructional materials, occupational competencies, and job placement opportunities. Each of the individuals in the following list can lend a specific type of expertise to the cooperative planning process.

1. administrators;
2. managers or coordinators of vocational education programming for handicapped or disadvantaged students;
3. regular vocational education instructors;
4. special vocational education instructors;
5. teacher/coordinator of work experience program;
6. vocational evaluator;
7. vocational resource instructors;
8. orientation and mobility specialists;
9. interpreters, note-takers, direct readers, attendants;
10. rehabilitation service counselors;
11. social work services personnel;
12. job placement coordinator;
13. paraprofessionals/teachers' aides;
14. academic teachers;
15. librarian;
16. teacher educators;
17. psychologist;
18. resource room teacher;
19. itinerant teacher;
20. speech therapist/communication specialist;
21. guidance counselor/vocational counselor;
22. nurse/medical personnel;
23. remedial math teacher;
24. remedial reading teacher;
25. remedial communications skills teacher;
26. curriculum coordinator;
27. bilingual teacher;
28. media specialist;
29. artist/illustrator;
30. hearing clinician;
31. occupational therapist;
32. physical therapist;
33. peers in the classroom;
34. tutors;
35. handicapped/disadvantaged students.

Inservice activities for staff members can benefit them in their work with special needs learners. During inservice training, staff members may receive information on the following:

1. referral procedures for handicapped and disadvantaged learners;
2. the IEP process;
3. determining appropriateness of materials;
4. adjusting rate of learning;
5. modifying teaching techniques to meet learning styles;
6. breaking down tasks into small, sequential steps;
7. individualized instruction;
8. competency-based learning;
9. work-support skills (personal and social);
10. techniques to motivate special needs learners;
11. behavior modification techniques;
12. selecting appropriate instructional materials;
13. setting up a peer tutoring system;
14. techniques to evaluate the progress of special needs learners.

Developing a Local System Resource Directory

Using all resources in the local school system to their fullest can improve the amount and quality of services provided to special needs learners. Resources are often untapped because of a lack of awareness that they are available. By developing a local system resource directory, teachers, counselors, support personnel, administrators, and parents can have an overview of available professional services.

One way to collect data on existing services or services that will soon be available is to develop sections for individual school programs or departments (e.g., home economics, agriculture, industrial arts, marketing and distributive education, health occupations education, business and office education, and trade, industrial and technical education).

Information compiled in a local system resource directory should include:

1. type of support service or supplementary material;
2. scope of service or material;
3. limitation of service or material (e.g., time limitation);
4. specific location of service or material—
    a. contact person
    b. telephone number;
5. referral procedure.

In addition to identifying resources available from individual programs or departments, periodic meetings among program areas should be held to coordinate and check for duplicated services. The local system resource directory should be widely disseminated and updated periodically.

COOPERATIVE PLANNING WITH ADMINISTRATORS

The administrator's role in planning, implementing, and evaluating vocational education programs to meet the needs of handicapped and disadvantaged learners is very important in the cooperative planning arrangements. The administrator's role in formulating cooperative agreements is equally important. Policies used to determine how programs will be coordinated and monitored to include special needs learners are usually formulated by administrators at the state and local levels.

The administrators involved in planning, implementing, and evaluating vocational service options for these students depend on the organization and structure at the local level. These administrators may include (a) director/supervisor of vocational education, (b) director/supervisor of special education, and/or (c) special needs coordinator. These individuals may be given full-time or part-time responsibility for special needs program management alone or in cooperation with others.

With administration support in the cooperative planning process, the following services can be provided:

1. appropriate service delivery options;
2. support services necessary to aid special needs learners;
3. flexible scheduling opportunities such as extended time, and open entry/open exit;
4. inservice/staff development activities to develop cooperative relationships between special education and vocational education personnel;
5. funds to purchase instructional materials;
6. modification of machinery and equipment; and
7. modification of classroom/laboratory facilities (accessibility).

In order for special needs learners to achieve success, it is important that administrators:

1. demonstrate belief in vocational education for the special needs learners and develop policies and guidelines to support this philosophy;

2. are well informed about the requirements mandated by federal and state legislation concerned with vocational education for special needs learners;

3. work toward implementing these mandates, especially equal access to vocational education for the special needs learners;

4. annually survey the school district to locate and identify special needs individuals eligible for vocational education and notify these individuals of the district's obligation to provide services to them;

5. consider necessary support services for handicapped students as a factor in the process of educational planning for each handicapped student; and

6. provide support services for the special needs learners (e.g., special counseling, registration assistance, career development, orientation and mobility instruction, transportation assistance, interpreter, reader and aide service, and special materials and equipment, and academic remediation).

ROLES AND RESPONSIBILITIES OF SCHOOL-BASED PERSONNEL INVOLVED IN COOPERATIVE PLANNING

The following information is provided to lend a general overview of the personnel most frequently involved in assisting the vocational instructor in the vocational preparation of special needs learners.

1. *Special education teacher* - Special education means specially designed instruction, at no cost to the parent, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions. Special education includes *any* related service and is considered "special education" rather than a "related service" under state standards.

Special education also includes vocational education if it consists of specially designed instruction, at no cost to the parents, to meet the unique needs of a handicapped child (P.L. 94-142).

Special education teachers will not all have a background related to vocational education programs. However, these individuals can (1) provide prevocational and career development experiences for handicapped students, (2) ensure that appropriate vocational goals and objectives are written into the IEP, (3) arrange for vocational assessment, (4) help vocational educators implement IEP goals and objectives, (5) provide handicapped students with opportunities to learn appropriate work attitudes and behaviors, (6) provide data on academic, personal, and social skills, (7) reinforce vocational skills, (8) suggest modifications and adaptations in curriculum, instruction, materials, and equipment, and (9) reinforce math, reading, and communication skills.

2. *Vocational special needs teacher* - The major objective of the vocational special needs teacher is to provide support to disadvantaged and handicapped students who are unable to succeed in vocational education without special assistance. The responsibilities of this person include (1) assess interests, abilities, and special needs of each disadvantaged and handicapped student with respect to successfully com-

pleting a vocational education program, (2) assist disadvantaged and handicapped students in appropriate vocational education placement, (3) participate in developing the individualized education program (IEP) or individual prescribed program (IPP), (4) provide resource assistance to vocational instructors—instructional materials, equipment modifications, and curriculum modifications, (5) provide basic skills instruction, including instruction in mathematics, reading, and writing, which are essential for the student to successfully complete a vocational education program (the basic skills necessary for a student to complete a vocational education program should be coordinated with the vocational instructor and be provided concurrently with the learner's enrollment in a vocational program), (6) act as a liaison with other school and agency personnel, (7) assist in placing students in gainful employment after training, (8) provide guidance, counseling, and career development activities, (9) provide transition services from school to employment—pre-employment skills training, placement services for entry into the labor market, and guidance services to facilitate the transition to further training.

3. *Vocational rehabilitation services counselor* - Although not considered to be school-based personnel, vocational rehabilitation services counselors work closely with personnel in the schools to serve eligible handicapped students. Eligibility for vocational rehabilitation services is generally based on (1) the existence of a physical or mental disability, (2) the existence of a substantial handicap to employment, (3) a reasonable expectation that vocational rehabilitation services would lead to gainful employment.

Vocational rehabilitation can offer eligible individuals the following services: (1) vocational evaluation, (2) medical services, (3) referral to other agencies, (4) technical aids and devices/special equipment, (5) prosthetic devices, (6) placement services, and (7) follow-up services.

An individualized written rehabilitation plan (IWRP) is then written for each eligible handicapped client. This document is described in more detail at the end of this module.

Figure 6.9 provides a list of roles and responsibilities to be assumed so that special needs learners can receive support and services that they need to participate in vocational programs. The school-based personnel and outside contributors to this effort are listed across the top of the chart.

The list is divided into four separate roles (roman numerals I through IV): vocational education teacher, vocational special needs teacher, special education teacher, and vocational rehabilitation services counselor. Each role has its list of suggested responsibilities. The individual and/or agency that could most likely assume the responsibility is indicated by an "X." A definite potential for cooperative planning exists, as many responsibilities have several X's and can be shared by two or more individuals/agencies.

INTERAGENCY COLLABORATION THROUGH WRITTEN INDIVIDUALIZED PROGRAMS

Module 5, Individualized Education Plans for Special Needs Learners, contains information about the individualized education program (IEP), mandated for all handicapped learners by Public Law 94-142, and information about developing an individual prescribed program (IPP) for disadvantaged learners. Both of these programs incorporate the cooperative planning process to provide services for special needs learners.

Another program, the individualized written rehabilitation program (IWRP), must also be developed for handicapped students eligible for vocational rehabilitation services. An overview of the IWRP, IEP, and IPP is shown in Figure 6.10.

IEP AND IWRP COLLABORATION

A collaborative IEP and IWRP is developed by the vocational rehabilitation services counselor for special education students eligible for rehabilitation services. This document is similar to the IEP for handicapped students. The necessary elements of an IEP are:

1. a statement of the present levels of educational performance of the individual;
2. a statement of annual goals, including short-term instructional objectives;
3. a statement of the specific educational services to be provided to the individual, and the extent to which he or she will be able to participate in regular educational programs;
4. the projected date for initiation and anticipated duration of such services;
5. appropriate objective criteria and evaluation procedures and schedules for determining, at least on an annual basis, whether instructional objectives are being achieved.

The necessary elements of an IWRP are:

1. background information (e.g., name, case number);
2. type of program (e.g., extended evaluation, occupational cluster/grouping, specific occupation-

Figure 6.9

ROLES AND RESPONSIBILITIES OF SCHOOL BASED PERSONNEL INVOLVED IN COOPERATIVE PLANNING	Vocational Education Teacher	Vocational Special Needs Teacher (Handicapped/Disadvantaged)	Special Education Teacher (Handicapped)	Other School Personnel (Psychologist, Social Worker, Evaluator, etc.)	Administrators	Employer/ Industrial Sector	Vocational Rehabilitation Services (Handicapped)	Other Outside Agency	Parent/Guardian
I. VOCATIONAL EDUCATION TEACHERS									
1. allow special needs students to explore vocational programs prior to actual enrollment	X								
2. accept for vocational training those students referred by vocational rehabilitation/special education (as funding and space will allow)	X								
3. actively participate in the staffing conference for the IEP	X		X	X	X				X
4. identify program requirements that must be met	X								
5. participate in the development of an IEP or IWRP for each handicapped student	X		X		X		X		X
6. provide the goals and objectives for the vocational section of the IEP	X								
7. develop an individual vocational program (I.V.P.) for disadvantaged students	X	X		X	X			X	X
8. allow for open-entry/open-exit arrangements	X								
9. assure that appropriate vocational tools and equipment are available	X				X		X		
10. adapt and/or modify tools and equipment that are available	X	X	X		X		X		
11. provide hands-on relevant vocational experiences	X								
12. identify technical vocabulary words that are necessary	X								
13. assure that barrier-free facilities are provided as needed for eligible handicapped learners	X		X		X		X		
14. identify and secure appropriate instructional materials	X	X	X						
15. modify materials and instructional methods including the type, duration, sequence and content of instructional units	X	X	X						
16. allow for extended time arrangements	X	X	X		X				
17. work with other personnel in relating curriculum to student's vocational programs (IEP or IPP)	X	X	X						
18. adapt and/or modify vocational curriculum	X	X	X						
19. refer identified handicapped students for vocational rehabilitation services	X		X						X
20. monitor student progress	X	X	X						
21. vocational guidance and counseling	X	X	X			X	X	X	
22. make contact and establish cooperation with business and industry	X	X	X				X	X	
23. collect input from advisory committees/councils	X								
24. incorporate special needs learners in work-study programs	X	X	X						
25. analyze the job market for placement options	X					X			
26. job development	X	X	X			X	X		
27. provide employment follow-up to assist special needs learners in maintaining their employment	X	X	X				X		
28. participate in planned inservice and staff development	X								

Figure 6.9 continued	Vocational Education Teacher	Vocational Special Needs Teacher (Handicapped/Disadvantaged)	Special Education Teacher (Handicapped)	Other School Personnel (Psychologist, Social Worker, Evaluator, etc.)	Administrators	Employer/Industrial Sector	Vocational Rehabilitation Services (Handicapped)	Other Outside Agency	Parent/Guardian
II. VOCATIONAL SPECIAL NEEDS TEACHERS									
1. increase awareness and knowledge of occupations to assist disadvantaged and handicapped vocational students in making more informed career choices	X	X	X						X
2. provide individualized counseling (career goals, work habits, job-related problems)	X	X	X	X			X		
3. relate classroom tasks to the vocational interests and skill needs of the handicapped students	X	X	X						
4. teach specific pre-vocational competencies (i.e., vocabulary, tools, safety, etc.)		X	X						
5. explain learning behavior characteristics of students		X	X						
6. provide a "listening ear" to teachers		X	X						
7. provide diagnostic testing services to disadvantaged and handicapped students									
8. evaluate students designated as disadvantaged and handicapped students		X	X						
9. interview vocational students identified as disadvantaged and handicapped to determine which vocational programs meet the student's needs, interests, and abilities		X	X						
10. develop individualized, competency-based curriculum for disadvantaged and handicapped vocational students	X	X	X						
11. develop prescriptive vocational education plans for disadvantaged and handicapped vocational students (IEP or IPP)		X	X						
12. assist the vocational teacher in revising program instruction to meet the student's needs		X	X						
13. teach specific vocational competencies (i.e. vocabulary, tools, safety, etc.)									
14. provide remedial vocational instruction to disadvantaged and handicapped students		X	X						
15. tape audio versions of written vocational materials for use with disadvantaged and handicapped students with limited reading ability		X	X						
16. help students to complete classroom assignments		X	X						X
17. modify instructional materials as needed		X	X						
18. rewrite required materials that are written above the reading level of the disadvantaged and handicapped vocational student		X	X						
19. furnish materials to vocational teachers that are suitable for the disadvantaged and handicapped learners		X	X						
20. suggest appropriate teaching strategies		X	X						X
21. identify need for modified equipment			X				X		
22. identify sources of modified equipment			X				X		
23. assist teacher in modifying equipment			X						
24. read tests and record responses		X	X						
25. refer students to appropriate agencies		X	X	X			X		
26. arrange services of outside agencies within school		X	X	X			X		
27. assist disadvantaged and handicapped learners with job seeking and retention skills		X	X						
28. assist in identifying potential employment opportunities	X	X	X			X	X		
29. assist job placement of individual students	X	X				X	X		
30. provide on-site supervision for disadvantaged and handicapped students placed in job situations	X	X							

Figure 6.9 continued	Vocational Education Teacher	Vocational Special Needs Teacher (Handicapped/Disadvantaged)	Special Education Teacher (Handicapped)	Other School Personnel (Psychologist, Social Worker, Evaluator, etc.)	Administrators	Employer/ Industrial Sector	Vocational Rehabilitation Services (Handicapped)	Other Outside Agency	Parent/Guardian
III. SPECIAL EDUCATION TEACHERS (working with identified handicapped learners)									
1. provide prerequisite personal adjustment and pre-vocational skills before referring students for vocational education			X						
2. promote teacher/administration awareness of vocational assessment and referral process			X						
3. implement student referral process for vocational assessment			X						
4. arrange for educational assessment			X	X					
5. provide liaison between assessment center and other concerned persons (guidance administration, parents, etc.)			X						
6. assist in interpreting results of vocational assessment			X	X			X		
7. promote use of assessment results in individual programming			X						
8. involve vocational education and vocational rehabilitation in writing vocational component of the IEP			X						
9. place handicapped students in vocational education programs based on the IEP			X						
10. assist the vocational teacher in relating vocational program competencies to meet individual student goals			X						
11. suggest curricular adjustments that may be necessary for handicapped learners			X						
12. identify existing appropriate instructional materials	X		X						
13. suggest ways to modify instructional materials			X						
14. assist with classroom management techniques for individual students	X		X						
15. assist in modification of the IEP if necessary	X		X						X
16. suggest ongoing student evaluation techniques			X						
17. monitor progress of individual students in vocational programs	X		X						
18. review/evaluate student progress and record on the IEP	X		X						
19. suggest modified instruction or alternative placement if necessary (i.e. work adjustment)	X		X				X		
20. provide job engineering and job redesign			X				X		
21. identify and/or secure financial support for inservice			X		X				
22. identify resource persons to assist in providing inservice			X		X				
23. provide inservice for educators regarding handicapped learners in vocational classes			X						
24. evaluate effectiveness of inservice provided			X						

Figure 6.9 continued	Vocational Education Teacher	Vocational Special Needs Teacher (Handicapped/Disadvantaged)	Special Education Teacher (Handicapped)	Other School Personnel (Psychologist, Social Worker, Evaluator, etc.)	Administrators	Employer/ Industrial Sector	Vocational Rehabilitation Services (Handicapped)	Other Outside Agency	Parent/Guardian
IV. VOCATIONAL REHABILITATION SERVICES (for eligible handicapped individuals)									
1. accept for referral handicapped students from vocational education and special education to determine eligibility							X		
2. identify, evaluate and provide rehabilitation services to qualified handicapped students:							X		
a. career exploration	X						X		
b. vocational guidance	X						X		
c. personal, social and family counseling			X				X		
d. glasses, hearing aids and wheelchairs							X		
e. telecommunications, sensory and other technological aids and devices									
f. adaptive equipment and aids							X		
g. uniforms							X		
h. books and supplies							X		
i. prosthetic and orthotic devices such as artificial limbs, braces, and artificial eyes							X		
j. surgical, hospital care and related therapy							X	X	
k. medical and psychological examination and evaluation				X			X	X	
l. comprehensive vocational and prevocational evaluation				X			X		
m. reader services for the blind and interpreters for the deaf							X	X	
n. occupational licenses, tools, equipment and supplies necessary for entry into employment							X	X	
o. work or on-the-job evaluation	X		X				X		
p. work adjustment									
q. worksite modifications	X								
r. on-the-job training	X				X		X		
3. Develop the Individualized Written Rehabilitation Plan (IWRP) in concert with the student's IEP	X		X				X		X

Figure 6.10

OVERVIEW OF WRITTEN INDIVIDUALIZED PROGRAMS FOR SPECIAL NEEDS LEARNERS

Agency	Written Individualized Plan	General Objectives
Special Education	Individualized Education Program (IEP)	1. States goals for learning 2. Specifies curriculum, materials, teacher and outcome 3. Specifies training in industrial arts or vocational education
Rehabilitation Services	Individualized Written Rehabilitation Plan (IWRP)	1. States vocational rehabilitation goals 2. Specifies objectives and services 3. Specifies timelines 4. Establishes employability
Vocational Education	Individual Prescribed Program (IPP)	1. Assesses occupational area 2. Specifies skills necessary 3. Sets goals for training 4. Identifies support services for the disadvantaged learner

DOT);

3. vocational objective (projected completion date);
4. intermediate objectives—
    a. contributing services (e.g., funding source, type of service necessary)
    b. projected initiation and completion dates
    c. evaluation criteria;
5. client and/or family participation and other resources (responsibilities and conditions);
6. views of client regarding program.

An example of an IWRP is shown in Figure 6.11.

There is a federal thrust to promote cooperative planning in the development of the IEP and the IWRP for a handicapped learner. In 1978, the U.S. Commissioners of Education and Rehabilitation Services made the following joint statement: "Both the rehabilitation services administration and the office of education strongly encourage state education agencies and state rehabilitation service agencies to develop collaborative IEP's and IWRP's at the earliest time appropriate to each eligible individual."

Some important points about IEP and IWRP collaboration have been made recently. A summary of these points follows.

1. Special education is beginning to realize the value of vocational education especially through occupational training and in providing additional funding for handicapped students.

2. Even though collaboration for development of IEP's and IWRP's is written into state agreements, it exists mostly on an informal basis on the local level.

3. In some cases, collaborative development of IEP's is expected, oftentimes appearing in description of job duties.

4. Certain factors discourage participation in IEP or IWRP development by professionals other than special educators because of lack of time or administrative support, or limitations of confidentiality laws.

5. It is possible that IEP's will be required for all students in the future and therefore professionals must be knowledgeable of IEP development (Wacker, 1982).

Figure 6.12 shows an IEP/IWRP Joint Planning Sheet that can be used in reviewing an IWRP to see whether it coordinates with the IEP developed for the individual in the school.

Figure 6.13 shows an IEP/IWRP Joint Planning Sheet that can be used to transfer pertinent information from the handicapped individual's IEP to the IWRP.

These two documents are not necessarily drafted at the same time. In many instances, handicapped students are enrolled in vocational education programs prior to the time that they apply for rehabilitation services.

The IWRP can become a vehicle to provide for the transfer of services to students leaving high school so that they can articulate to a postsecondary training facility or make a transition to the world of work. It can also serve as a transition plan for case management and capability.

Figure 6.11

INDIVIDUALIZED WRITTEN REHABILITATION PROGRAM

1. Name: ______________________ Case Number: ______________________

2. Program Type: (Circle one) Extended Evaluation Original Program Program Extension

3. Vocational Objective: (Only one of these items to be completed. Indicate projected completion date.)

A. Tentative or None: (Extended Evaluation only)

B. Occupational Grouping: ______________________ ______________________ Mo. Yr.

C. Specific Occupation: ______________________ ______________________ Mo. Yr.

4. Intermediate Objectives, Contributing Services and Evaluation Criteria:

	Funding Source	Initiation Date Mo. Yr.	Completion Date Projected Mo. Yr.
OBJECTIVE ONE:			
SERVICES:			
EVALUATION CRITERIA:			
OBJECTIVE TWO:			
SERVICES:			
EVALUATION CRITERIA:			
OBJECTIVE THREE:			
SERVICES:			
EVALUATION CRITERIA:			
OBJECTIVE FOUR:			
SERVICES:			
EVALUATION CRITERIA:			
OBJECTIVE FIVE:			
SERVICES:			
EVALUATION CRITERIA:			

Figure 6.11 continued

5. Client and/or family participation and other resources (responsibilities and conditions): ________________

____

6. Views of client regarding this program: ________________

____

____

It is understood that this program has been developed with full participation and is subject to change on the basis of changing circumstances and/or new information. I may be declared ineligible and terminated if a reasonable likelihood of achieving a vocational goal ceases to exist.

________________ (Date)	________________ (Client, parent, or guardian's signature)
________________ (Date)	________________ (Counselor's signature)

(Georgia Department of Human Resourses Division of Vocational Rehabilitation)

Figure 6.12

IEP/IWRP JOINT PLANNING SHEET
INDIVIDUALIZED WRITTEN REHABILITATION PLAN

Component	Information Available	Information Needed—Source	Does Information Coordinate with IEP? (yes, no)
Background information			
Type of program (extended evaluation, occupational cluster, specific occupation)			
Vocational objective			
Intermediate objective (contributing services, projected initiation and completion dates, evaluation criteria			
Client and/or family participation and other resources (responsibilities and conditions)			
Views of client regarding program			

Figure 6.13

IEP/IWRP JOINT PLANNING SHEET
INDIVIDUALIZED EDUCATION PROGRAM

Component	Information Available	Information Needed—Source	Does Information Coordinate with IEP? (yes, no)
Present level of educational performance			
Annual Goal			
Short-term objectives (criterion level for each)			
Services (specific service, projected dates of initiation and termination)			
Amount of time in regular (vocational) class activities			
Date for review and evaluation of IEP (minimum - once a year)			

SUMMARY

Interagency cooperation is the coordination of the available resources of both public and private agencies whose objective is to provide vocational education instruction and services to special needs learners. Educational institutions, job training programs, rehabilitative agencies, employment services, community services, and business and industrial services are often available to develop skills necessary for independence for special needs individuals. However, the combined potential for these resources is seldom realized due to fragmented efforts. Thus, the need for collaboration and cooperation among agencies is crucial.

Recent legislative mandates and federal initiatives have required that agencies recieving federal funding begin to plan, implement, and evaluate collaborative plans. Without interagency planning many services needed by special populations may be excluded or duplicated. It is essential that a process be established at the state and local levels to (a) investigate services that are needed by special needs individuals so that their vocational goals can be achieved, (b) determine which agency can provide which service(s), and (c) determine to what extent these services can be shared in a cost-effective manner.

A position statement on comprehensive vocational education for all handicapped persons, published by the United States Office of Education in 1978 encouraged states and local education agencies to utilize interagency agreements to coordinate necessary services for handicapped individuals. In addition to the emphasis on interagency agreements there has been an increasing focus on providing the necessary transition services required by individuals with disabilities so they can successfully bridge the gap between school and employment.

Cooperative planning at the local level includes a team approach including federal and state agencies, community organizations, business and industry organizations, citizens and special interest groups, advisory committee members, school-based personnel, parents and guardians, and administrators.

SELF ASSESSMENT

1. What is a state interagency agreement?
2. What is the purpose of an interagency agreement?
3. What are the components of an effective local interagency agreement?
4. How can state personnel assist local school districts in developing, implementing, and evaluating local interagency agreements?
5. What are some of the barriers to interagency collaboration?
6. Discuss the importance of the cooperative planning process.
7. Name some personnel who should be included in the cooperative planning process.
8. What contributions can school personnel make to the cooperative planning process?
9. What contributions can agencies, organizations, and advocacy groups make to the cooperative planning process?
10. What contributions can advisory committees and employers make to the cooperative planning process?
11. What contributions can administrators make to the cooperative planning process?
12. What contributions can parents/guardians make to the cooperative planning process?
13. What personnel is available in your local school to provide services and assistance to special needs learners enrolled in your program?
14. What types of inservice activities can be planned for staff members that would help them to work more effectively with special needs learners?

ASSOCIATED ACTIVITIES

1. Check to see whether your state and/or local district has developed a cooperative interagency agreement. What are the responsibilities of vocational education, special education, and vocational rehabilitation and/or other agencies in this agreement?
2. Obtain a copy of your local interagency agreement and familiarize yourself with the identified role and responsibilities of youth discipline.
3. Identify agencies and/or federal, state, and local organizations that can help to provide services for special needs learners in your program.
4. Work cooperatively with the local advisory or craft committee members in your program area to determine the services and assistance they provide for the special needs learners.
5. Contact the parents or guardians of the special needs learners in your program and involve them in cooperative planning for these students.
6. Identify and contact appropriate personnel in your school and/or district and incorporate these individuals in the cooperative planning process for special needs learners enrolled in your program.
7. Work with other staff members to develop an inservice session for other personnel in your school relative to working with special needs learners. Stress what these people can do to assist these students.

CASE STUDY

Ms. Cross is a vocational home economics instructor at the secondary level. She has a number of special needs learners enrolled in her classes. Initially Ms. Cross did not feel that she was able to adequately meet the needs of these students without some assistance. Since there is a local interagency agreement in the district where Ms. Cross teaches, responsibilities and services for the handicapped learners were specified. Ms. Cross began working with the special education teacher, the psychologist, and the vocational rehabilitation services counselor assigned to the district. In addition, she has started to work with the disadvantaged coordinator and the school social worker.

The team worked together to develop the vocational component of the IEP for handicapped students and an IPP for disadvantaged students. Plans have been written up for the course, spelling out what the support teachers would do and what Ms. Cross would do.

Good communication was established among the team members that made each aware of the others' needs and of the students' aspirations. It also laid the foundation for a successful program to maintain students in vocational education classes not previously available to them. Appropriate information was shared relative to individual student limitations and needs. Curriculum modification techniques were adopted. For example, the special education teacher administered the vocational education test during special education class time. Written vocational education materials were converted by the disadvantaged coordinator to audio-cassettes for individual repetitive use by students. The team members worked with Ms. Cross to develop specific strategies to use with individual students. After consulting with Ms. Cross, the special education teacher and disadvantaged coordinator provided supplemental assistance to students who were having difficulty with the class.

Workers in child care and food service were hired on a part-time basis to serve as aides. These incumbent workers provided individual attention and expert instruction, but all responsibility for classroom management and discipline remained with Ms. Cross. This one-on-one teaching support made it possible for each student to achieve his or her potential. Because the community workers worked by the hour, scheduling was flexible and maximum benefit was received in relation to cost.

The building administrators have been very supportive of these cooperative planning efforts. Both the special education and vocational education supervisor have pledged their support and have ordered some special materials for use with these learners in the home economics program. In addition, the principal has agreed to schedule an inservice program dealing with effective techniques in working with special needs learners. Ms. Cross is also working with her local advisory committee to secure cooperative work training stations as well as available work sites for shadowing activities. She has even received several verbal commitments from advisory committee members to hire several special needs graduates this year.

The parents of the special needs learners have been very supportive and enthusiastic about Ms. Cross' program. They volunteer to come to her class to tutor and spend time at home in the evening reinforcing material covered in class. They have even formed an informal support group to encourage each other. The cooperative planning process is alive and well in Ms. Cross' program.

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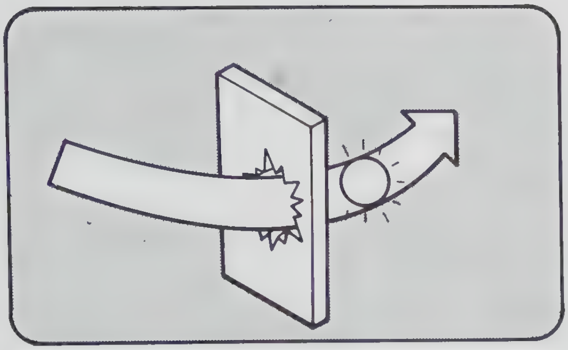


7

In past years, handicapped learners have been denied their right to participate in vocational programs because of architectural and work environment barriers. Today, however, this situation is changing. Provided with mandates of federal legislation, vocational educators and special needs support personnel from the school and community are working together to identify architectural barriers in facilities and work environment barriers in vocational program curricula and equipment and applying rehabilitation technology solutions to reduce the impact of these barriers and, in some instances, eliminate them completely.

This module presents information about architectural and work environment barriers that may present problems for handicapped students and offers possible solutions that can be selected by the rehabilitation technology team to help these learners deal successfully with these barriers so they can participate fully in vocational programs.

OUTLINE

- Accessibility and the Law
  - Laws Requiring Program Accessibility
  - Responding to Accessibility Laws
- Rehabilitation Technology
- Facility Modification
  - Identifying Architectural Barriers
- Suggestions for Vocational Facility Accessibility
  - Approaching and Entering the Building
  - Moving About inside Buildings
  - Orienting Students to Vocational Facilities
  - Team Approach to Barrier Identification Process
- Applying Rehabilitation Technology to Modify the Laboratory Work Environment
- Team Approach to Identifying Work Environment Barriers
  - Developing Performance Samples
    - Pilot Testing the Performance Sample
  - Developing a Performance Sample Observation/Rating Sheet
  - Administering the Performance Sample
  - Evaluating and Using Performance Sample Results
  - Vocational Teacher Responses to Identified Barriers
  - Available Aids, Tools, Machines, and Equipment
- Suggestions for Work Environment Modifications
  - Modifying the Work Environment for Wheelchair-confined Persons
  - Modifying the Work Environment for Students with Upper Extremity Disabilities
  - Modifying the Work Environment for Students with Visual Impairments
  - Modifying the Work Environment for Students with Hearing and Speech Impairments
  - Modifying the Work Environment for Students with Mental Disabilities

Future Implications of Rehabilitation Technology for Special Needs Learners
Sources of Information about Computer Use for Special Populations
Summary
Self Assessment
Associated Activities
Case Study
Related Activity
References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Explain the requirements of federal legislation that require program accessibility for the handicapped learner.
2. Define the term *rehabilitation technology* and list its goals.
3. List the basic architectural requirements that assure physically handicapped individuals access to vocational grounds and buildings.
4. Describe the team approach to identifying architectural barriers that may need to be modified to accommodate physically handicapped learners.
5. Describe the rehabilitation technology team approach to identifying and modifying work environment barriers.
6. List some strategies that vocational teachers could use to modify tools, machines, equipment, and work station apparatus to accommodate handicapped individuals.
7. Explain the importance of rehabilitation technology in the future training and employment of handicapped learners.

CONCEPTS

Accessibility - The ability to enter a facility or building to move about freely in the building and to be able to participate and function effectively in the work environment.

Functional limitations - Limited abilities to perform vocational and work task requirements due to sensory, physical and/or intellectual impairments.

Modification - The act of altering or changing some process or object to make it more functional.

Rehabilitation technology - The process used in designing, manufacturing, altering, or modifying equipment and/or the environment to accommodate a handicapped learner.

Rehabilitation technology team - A group of individuals including vocational teachers, special education personnel, rehabilitation professionals, medical professionals, and other professionals from the community who work cooperatively in assessing a vocational facility and work environment to identify possible barriers for handicapped learners and who suggest modifications of facilities, tools, equipment, or processes to reduce the impact of these barriers.

Technological intervention - The act of entering into a process or procedure of applying technological information or devices that reduce the impact of a barrier for a handicapped learner.

Module 7, Applying Rehabilitation Technology to Vocational Programs, Facilities, and Equipment, is based on information developed by Dr. David E. Kingsbury, Professor of Professional and Applied Studies, Bemidji State University, Bemidji, Minnesota.

MODULE 7

APPLYING REHABILITATION TECHNOLOGY TO VOCATIONAL PROGRAMS, FACILITIES, AND EQUIPMENT

ACCESSIBILITY AND THE LAW

Without barrier-free access to vocational buildings and grounds, handicapped persons are denied their right to participate in vocational education programs. Similarly, unless appropriate modifications are made to tools, machines, equipment, and work station apparatus, handicapped persons will be unable to develop work skills that will help them become a part of the work force. Vocational facilities having architectural barriers that prevent access by handicapped individuals are a direct form of discrimination. Therefore, they must be appropriately modified. Architectural accessibility is not a privilege for the handicapped, but a right. Congress guaranteed this right when it passed the Architectural Barriers Act of 1968 and the Rehabilitation Act of 1973.

Laws Requiring Program Accessibility

The Architectural Barriers Act of 1968, Public Law 90-480, requires that any public facility built or substantially renovated since 1968 that receives federal support must be accessible to handicapped persons. The law was replaced in 1976 by Public Law 94-541, which strengthened existing federal laws mandating architectural accessibility. Public Law 94-541 requires federal agencies to assume responsibility for assuring that all public buildings are made accessible and that a system of continuing surveys be established to ensure compliance.

The 1973 Rehabilitation Act, Public Law 93-112, contains regulations in Section 504 that specify requirements to ensure program accessibility for the handicapped. Broadly defined, the law stipulates that handicapped persons cannot be excluded from participating in any program or activity receiving federal support because its facilities are inaccessible. The law does not require that all facilities be accessible, but that each program or activity in which a handicapped person can enroll and profit be made accessible.

The regulations of Public Law 93-112 also include strategies and methods for achieving program accessibility, time periods for implementing change, the formulation of transition plans, and regulations for new construction. The Carl Perkins Act of 1984 mandates an emphasis on educating the special needs learner. Two major themes emerge from the Perkins legislation, which complement the prior legislation in the areas of accessibility and modification (Cobb and Kingsbury, 1985). These are:

1. An emphasis on providing supplemental services for special needs learners, which include assessment and adaptation of curriculum, instruction, equipment, and facilities.
2. The development of relationships and linkages with community-based service providers, such as rehabilitation and the private sector.

Responding to Accessibility Laws

The implications of federal laws and regulations are clear: Vocational educators must find ways of modifying facilities and equipment so that handicapped persons will have equal access to programs, services, and activities. Vocational planners and administrators should contact their State Architectural Barriers Board or State Department of Education regarding guidelines and standards that have been developed to comply with federal mandates. The federal government has adopted the American National Standards Institute (ANSI) accessibility standards (A 117.1) as its mandatory guidelines for removal of architectural barriers.

Several states have developed their own facility standards for ensuring barrier-free schools and other public buildings. (See references for resources on eliminating architectural barriers.)

REHABILITATION TECHNOLOGY

Technology affects nearly every dimension of our lives, resulting in new tools, materials, and processes that reduce physical work and that make our lives more enjoyable. Technology directed toward modifying vocational facilities, programs, tools, and equipment can result in helping handicapped learners compensate for their disabilities and can provide ways for them to participate in productive employment.

Rehabilitation technology is a particular branch of technology that has been developed in response to the needs of handicapped learners. Rehabilitation technology is any process used in the design, manufacture, and alteration of equipment and/or the environment of the handicapped learner. The goals of rehabilitation technology are to:

1. increase overall productivity of handicapped learners;
2. expand the number of options and choices of handicapped learners;
3. develop systematic methodology to identify and eliminate barriers for handicapped learners; and
4. increase the likelihood of successful placement of handicapped learners in sheltered or competitive employment.

A publication entitled *Rehabilitation Engineering: A Counselor's Guide, State of the Art* (1979) stated that most environments for daily living, employment, education, and training could be modified with the help of rehabilitation technology. They have referred to a number of commercially available aids and adaptive devices that have been designed and are available to meet the needs of handicapped learners.

Vocational teachers are key individuals in the rehabilitation technology process. Many of them have inventiveness, coping skills, and experiences with handicapped learners, which are essential qualities in the rehabilitation technology process. Some additional qualities that are desirable for vocational teachers to have in reducing the impact of barriers for handicapped learners are:

1. a working knowledge of mechanical and electrical engineering;
2. a basic creativity for solving specific functional problems in an economical manner;
3. a comprehension of aesthetics, so that whether the product is an adapted, modified, or custom aid, the image of the consumer product is maintained;
4. a dedication for technical support to the functional problems of the severely disabled;
5. the ability to work cooperatively with the handicapped learner, the counselor, and other support professionals; and
6. an adequate knowledge of human engineering factors of disabled and nondisabled persons.

Although an individual vocational teacher may not possess all of the above qualities, a *team* of vocational teachers, special education teachers, and rehabilitation professionals often do. In addition, outside resources that provide information regarding the modification of programs and facilities are available. Among these sources are:

1. state vocational rehabilitation agencies;
2. rehabilitation engineering clinics;
3. rehabilitation hospitals;
4. rehabilitation centers;
5. private rehabilitation facilities;
6. engineering departments of colleges, universities, technological institutions, and vocational programs in public and private high schools;
7. orthotics and prosthetic facilities;
8. rehabilitation engineering centers;
9. rehabilitation research and training centers;
10. local practicing and retired engineers and architects;
11. local occupational professionals (carpenters, welders, etc.);
12. other local groups such as Visiting Nurses Association, American Occupational Therapy Association, United Cerebral Palsy, and Easter Seal Society; and
13. adaptive device supply companies such as Fred Sammons, Maddok, Preston, and Abbey. These companies often have local distributors and extensive catalogs.

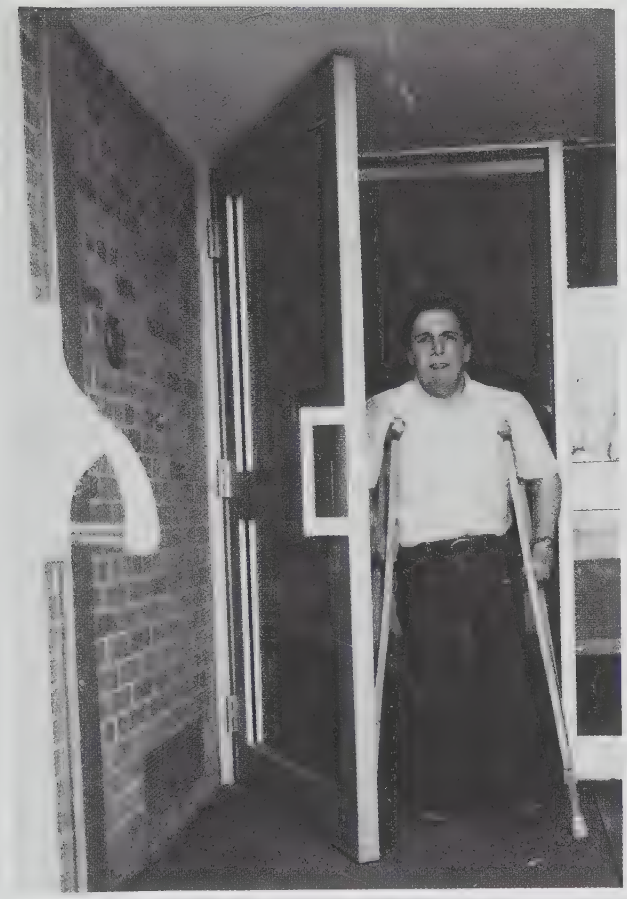
FACILITY MODIFICATION

One of the most obvious areas of rehabilitation technology is facility modification. In a sense no facility can be completely barrier-free. The wide range of handicapping conditions and the modifications needed to accommodate persons with physical disabilities preclude simple or pervasive solutions. For example, a solution or modification to eliminate a barrier for one person with a specific type of physical disability might create a barrier for another person with a different disability. It is essential that thought be given to meeting the needs of all persons who will be using a facility before choosing a facility design or making modifications.

Safety is the most important concern associated with accessibility. Efficiency and convenience are also key considerations. Vocational educators must keep these concerns in mind when identifying and reducing the impact of barriers. A barrier for a handicapped person occurs when the physical demands of a situation are difficult to cope with or cannot be overcome. For example, it may be difficult for an individual using crutches to open a door with a heavy closer unit. Therefore, a barrier exists for this person. See Figure 7.1.

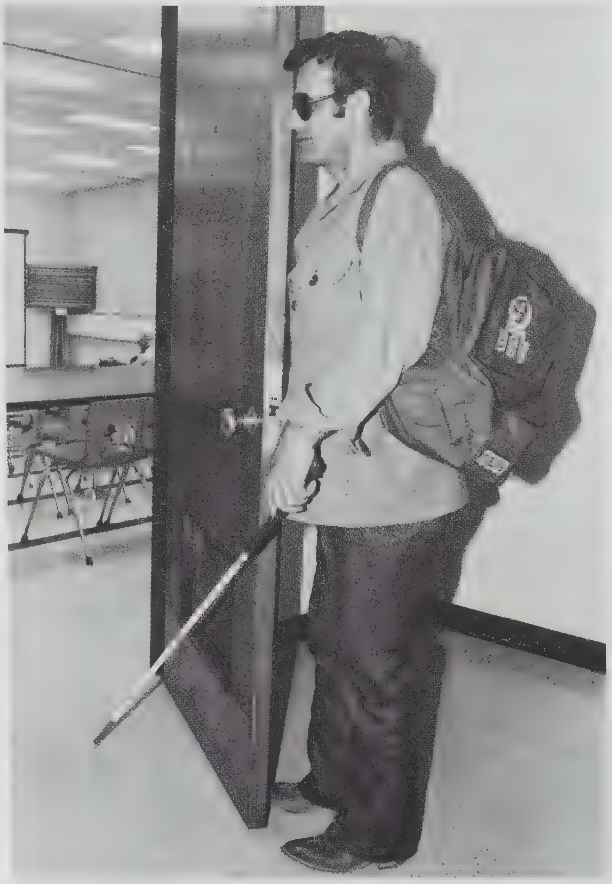
The solution to the barrier caused by a heavy door closer is the adjustment of the tension. This allows the door to open more easily with enough tension to self-close afterwards. If there is insufficient tension to close the door, another type of hazard exists. A half-open door is a safety problem for learners with a visual impairment. See Figure 7.2.

Figure 7.1



A door with a heavy closer unit is a barrier for a physically handicapped individual on crutches.

Figure 7.2



A half open door is a hazard to a visually disabled student.

Solving the problem caused by the heavy door closer unit is inexpensive and easy to deliver. Frequently, however, removing or modifying a barrier caused by poor facility design or equipment design can be expensive. The cost of making modifications to vocational facilities and equipment can often be significantly reduced by making the modifications by using the technical expertise of vocational instructors and students enrolled in related vocational programs.

Identifying Architectural Barriers

Architectural barriers can exist in every area of a vocational facility. Barriers are present in accessing vocational buildings as well as moving about inside them. See Figure 7.3.

The three major areas in most vocational facilities that may present barriers to handicapped persons are:

1. *Getting to and entering the building*—getting to the grounds from public or private transportation; parking; negotiating parking lot pavement, curbs, walkways, ramps, and stairways; and entering exterior doors. See Figure 7.4.

2. *Moving about inside a building*—moving through corridors and hallways; moving from floor to floor; identifying and entering classrooms, laboratories, and auxiliary areas; moving through aisles and traffic lanes inside classrooms and laboratories. See Figure 7.5.

3. *Using school fixtures, appliances, and study/work station area equipment*—using restrooms, drinking fountains, audiovisual machines, vending machines, telephones, controls, tools, machines, equipment, and work station apparatus.

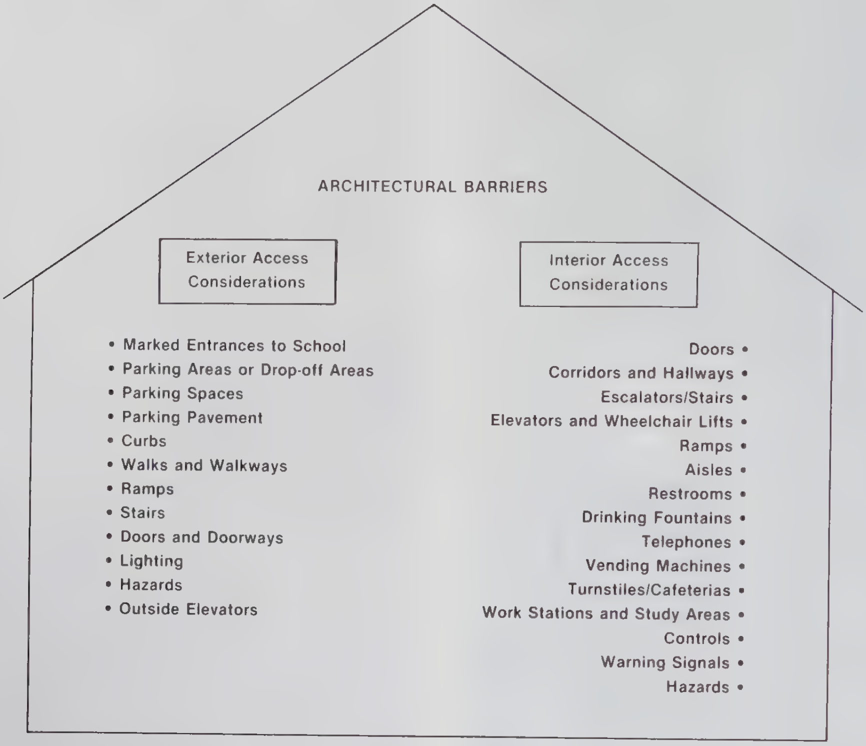
SUGGESTIONS FOR VOCATIONAL FACILITY ACCESSIBILITY

Approaching and Entering the Building

A number of possible barriers exist for handicapped persons trying to get to vocational buildings and enter-

Figure 7.3

ARCHITECTURAL BARRIERS THAT CAN EXIST IN A VOCATIONAL FACILITY


ARCHITECTURAL BARRIERS
Exterior Access Considerations
Interior Access Considerations
• Marked Entrances to School
• Parking Areas or Drop-off Areas
• Parking Spaces
• Parking Pavement
• Curbs
• Walks and Walkways
• Ramps
• Stairs
• Doors and Doorways
• Lighting
• Hazards
• Outside Elevators
Doors •
Corridors and Hallways •
Escalators/Stairs •
Elevators and Wheelchair Lifts •
Ramps •
Aisles •
Restrooms •
Drinking Fountains •
Telephones •
Vending Machines •
Turnstiles/Cafeterias •
Work Stations and Study Areas •
Controls •
Warning Signals •
Hazards •

ing them. These include the following:

1. parking areas that are inconvenient or not clearly marked;

2. parking spaces too few in number or located too far from the building entrances, or not wide enough to allow wheelchair-confined persons to load and unload;

3. curbs that are difficult to cross because they contain no marked breaks or are unramped;

4. parking lots with loose gravel or rough pavement;

5. parking areas with storm drain covers that permit wheelchairs or crutch tips to sink;

6. walks that are too steep, too narrow, or lack appropriate curbs or guardrails;

7. doors and doorways that are either too narrow, contain raised thresholds, or have door closers too heavy to open;

8. inadequately lighted parking areas, walkways, and building entrances;

9. stairways without guardrails or with projecting tread noses;

10. entranceways that lack protection against the weather.

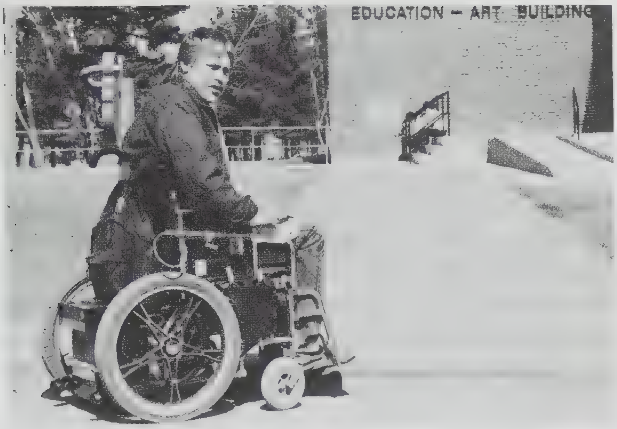
The following guidelines should be considered in eliminating these barriers:

a. *Parking areas or drop-off areas*—Parking areas or drop-off areas should be provided as close to the building entrances as possible. They should be well lighted and clearly marked with the international symbol of access: ♿ . Parking lot surfaces should be relatively smooth (not slippery) and free of storm drain covers that permit crutch tips or wheelchairs to sink. The slope of parking areas should be almost level near building entrances and have a gradient not greater than 5%.

b. *Parking spaces*—A sufficient number of parking spaces (at least two per building) should be provided for the handicapped. These spaces should be located so that handicapped persons do not have to travel behind parked cars. They should be at least 12′ wide, open on one side, and positioned so that handicapped persons can move onto a level surface from their vehicles.

c. *Curb cuts*—At least one clearly marked curb cut or curb ramp with a maximum gradient of 8.3% should be provided near designated parking spaces and located so that it cannot be obstructed by cars or other barriers. Curb cuts or ramps should have some type of tactile warning device such as railings or grooves in the

Figure 7.4



A curb presents a barrier that inhibits access to a building ramp.

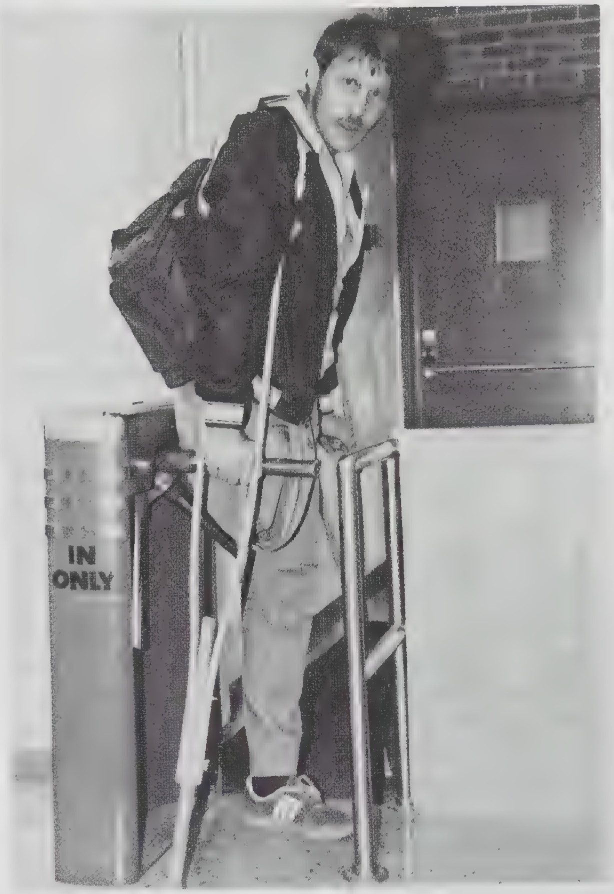
surfaces of entry approaches to assist visually impaired persons.

d. *Walks*—Walks should be at least 5′ wide and contain a maximum slope of 5%, or 1′ to 20′. They should have nonslip surfaces such as a broom finish and should blend to a common level at all intersections such as parking lots, driveways, or other walks. Walks should terminate at building entrances with a level platform at least 5′ by 5′ with a 1′ extension beyond each side of the doorway. Entrances to walkways, like curb cuts, should have tactile warning devices to aid visually impaired persons. Walkways should be adequately lighted and protected from the elements if possible.

e. *Exterior stairs*—Stairs leading to building entrances should contain handrails mounted 32″ above tread nosings that extend 18″ beyond the bottom and top of the stairways unless they project into a walkway. Step treads should be at least 11″ wide and have nonslip surfaces. Step risers should not be more than 7″ high and should be free of projecting tread nosings. Stairways should be well lighted and step treads and step risers should be painted in sharply contrasting colors to aid the visually impaired. Raised or engraved numbers or letters should be located on the top guardrails directly above the top step tread to designate floor levels if the stairway continues.

f. *Ramps*—Ramps at least 4′ wide should be provided for physically disabled persons who cannot use stairs to enter buildings. Ramps should have slopes with a gradient no greater than 8.3%, or a 1′ rise in 12′. Ramps should have a nonslip surface such as a broom finish. Ramps that are open on both sides should have guardrails that are 32″ high, extending 18″ beyond the bottom and top of each ramp. Ramps that terminate at building entrances, like walks, should join onto level platforms that are at least 5′ by 5′ and extend at least 1′ beyond each side of the doorway. Ramps should have a 6′ straight clearance at the bottom and level platforms at least 6′ long every 30′ on a rampway or wherever they turn. Protective curbs are desirable on rampway sides that end in a dropoff.

Figure 7.5



A turnstile in the entrance of a cafeteria is a barrier for a disabled individual on crutches.

g. *Doors and doorways*—Doors should be at least 32″ wide, with lever handles, 12″ high kick plates located on the door bottoms, and closers that are adjusted so that not more than 8 pounds of pressure is required to open doors. In new or renovated facilities automatic doors are preferable. There should be a minimum of 6′-6″ separation between inner and outer doors. Exterior doorways should contain enlarged raised or engraved numbers, or letters placed 5′ high on the wall adjacent to the opening side of the doorway to aid visually impaired persons.

Moving About inside Buildings

Handicapped persons frequently encounter a number of barriers in the following areas inside vocational buildings:

1. moving between floor levels;
2. traveling between classrooms, laboratories, and auxiliary areas such as restrooms, lounge areas, cafeterias, and snack bars;
3. identifying room entrances and negotiating them;
4. traveling inside classrooms and laboratories;
5. using fixtures such as toilets, lavatories, drinking fountains, vending machines, study carrels, work stations, telephones, and emergency controls and fixtures.

The following general guidelines should be considered in eliminating barriers that exist inside vocational buildings:

a. *Floors*—Floors should be at a common level throughout the building or be connected by ramps that meet the criteria presented for exterior ramps. All changes in floor level should be clearly marked by visual as well as tactile devices. Plush and shag carpeting should be avoided.

b. *Corridors and hallways*—Corridors and hallways should be at least 5′ wide to allow two wheelchairs to pass. Travel routes for the handicapped should be clearly marked. For example, signs should be posted to indicate accessibility routes to various parts of the building and to indicate emergency exits. Entrances to classrooms, laboratories, and auxiliary areas should be marked with raised or engraved letters, numbers, or symbols at least 2″ high, mounted 5′ high on the wall adjacent to the opening side of doorways. Protruding fixtures such as fire extinguishers, telephones, and drinking fountains should be placed in accessible recessed areas in corridors.

c. *Interior stairs and ramps*—Interior stairs and ramps should meet the same guidelines as those for exterior stairs and ramps.

d. *Movement between floor levels*—Moving between floor levels in multi-level buildings for individuals who cannot use stairways can be done by installing elevators, ramps, or wheelchair lifts. Elevators and wheelchair lifts should be located close to the main entrances to buildings. These devices should be clearly marked with raised or engraved signs and have controls located between 2′- 11″ and 4′- 6″ above the floor level. Elevator cabs should be at least 5′ by 5′ and contain a rear-view mirror to assist wheelchair-confined persons in backing out. Photoelectric eye locations on elevator entranceways should be marked with OSHA yellow stripes. Floor level indicator lights should be in a visible location, and auditory signals should differentiate between up and down elevator movements. Wheelchair lifts can be used when the drop between floors is less than 4′- 6″ and where insufficient space is available to install ramps. Wheelchair lifts can be installed on either the exterior or interior of the building and occupy as little space as 5′- 5″.

e. *Movement inside classrooms and laboratories*—Aisles and traffic lanes inside classrooms and laboratories should be at least 3′ wide (4′ preferably) and wider where obstructions frequently occur, such as near work benches that have vises. These traffic areas should be marked according to OSHA guidelines.

f. *Restrooms*—At least one barrier-free restroom should be available in each separate vocational building or wing. Restroom stalls should have swing-out doors and should be no less than 5′- 6″ × 6′. Grab bars should be installed on both sides of the stall 33″ off the floor. Commodes should be the type with narrow understructures and should be 19″ to 20″ high. Lavatories should be mounted high enough to allow 27½″ of knee clearance. Hot water pipes should be protected with insulation or other barriers to prevent possible burns to the lower limbs of handicapped persons. Restrooms for the visually impaired should be marked with similar markings as those for other room entrances.

g. *Drinking fountains*—A minimum of one barrier-free drinking fountain should be available in each separate vocational wing or building. It should be placed in a recessed area of a corridor or hallway about 30″ from the floor unless cups are provided. Fountains should be equipped with push-button type hand controls and foot pedals. They should display the symbol of access.

h. *Telephones*—At least one barrier-free telephone should be provided in each separate vocational wing or building. Telephones should be placed in a recessed area and installed so they are accessible to wheelchair-confined persons (no higher than 4′- 4″). Telephones should be the button type, equipped with adjustable receiver volume, and buttons should be labeled with braile tape.

i. *Vending machines*—Vending machines of the push-button, solenoid type should be used whenever possible and should have coin slots no higher than 4′- 8″ off the floor. Braile tape should be used to identify various functions of the vending machine.

j. *Cafeterias*—Cafeterias should be made accessible to handicapped persons. They should contain doorways at least 34″ in width, employ tray slides mounted 34″ off the floor, have food or service lines at least

36″ wide, and have tables spaced 6′ apart with a clearance of at least 27½″. If turnstiles are used, an alternate access way should be provided for physically handicapped individuals.

k. *Work stations and study areas*—Student work stations in laboratories or study areas in classrooms should be at least 32″ wide, have knee space of 22″ deep and 27½″ high. In lecture halls or classrooms, a space of at least 36″ wide and 4′-4″ long should be provided for wheelchair-confined persons. Typical work station furniture in vocational laboratories and classrooms include study carrels, work benches, and tables. Modifications to work station furniture are often needed to accommodate the handicapped.

l. *Controls*—Controls and switches for such essentials as light, heat, ventilation, windows, draperies, and fire alarms should be placed so that wheelchair-confined persons can use them. These controls should be no higher than 5′ off the floor.

m. *Warning devices*—Warning devices that use auditory signals, such as fire alarms and class change devices, should also be equipped with simultaneous visual signals to serve individuals with both hearing and visual impairments.

n. *Hazards*—Most buildings have some type of hazard, and when these cannot be eliminated they should be clearly marked and have some type of obstruction to protect individuals from injury. Typical hazards include uneven walks; manhole covers raised above the pavement or sunken below it; open access panels, open excavations; low-mounted door closers; telephone or electric cords crossing the floors; telephones, drinking fountains, fire extinguishers and fire alarms protruding into hallways or corridors; ramps and stairs without guardrails; and materials protruding into traffic lanes.

Orienting Students to Vocational Facilities

Making vocational facilities accessible to the handicapped involves more than just eliminating physical barriers. It also involves orienting students to the school environment. Students with disabilities often feel anxious upon arriving at a vocational facility. In addition to the transition problems facing all students, handicapped individuals must make adjustments to the physical environment. The transition to the physical environment can be made easier by a good orientation program.

A successful orientation program for physically handicapped persons often involves more than one session. Perhaps the first day of orientation should be devoted to a preview of the physical facility with special attention given to architectural accommodations (e.g., location of elevators, ramps, stairs, building entrances, parking spaces, accessible restrooms and drinking fountains, etc.). Special needs students with more severe handicaps may need a specialized orientation that may require several days to cover ways of adjusting to facilities. Typically these adjustments involve choosing the best route from one location to another and building confidence in their ability to move about inside the vocational facility. The orientation may be conducted by the vocational counselor, an administrator, or a faculty member. For students with severe disabilities, it is advisable to use the services of a specialist in conducting the orientation process.

Team Approach to Barrier Identification Process

In order to ensure an architecturally accessible facility, a team of individuals should be involved in conducting a facility assessment. The assessment team should include the following members:

1. a facility administrator familiar with the types of barriers that pose problems for the handicapped learners;
2. handicapped learners who experience firsthand the barriers to programs are valuable team members; (This is especially important since the intent is to serve the actual students that are enrolled, and not make a mass barrier change, which may not improve the facility.)
3. vocational educators, or others who have an understanding of construction and/or engineering skills;
4. a member of the school's support team who has a working knowledge of cooperating agencies in the community.

This type of assessment can be carried out in many ways. The intent of the law is that each organization affected by the federal regulations should have an individualized institutional access plan. This has been the starting point for many vocational schools. The implementation of this plan is often facilitated by sensitizing the population of a school via assessment activities involving the entire school population. One example of this is a Handicap Awareness Week, which allows all students to participate in awareness activities. See Figure 7.6. Programs such as this focus attention to many barriers that can be minimized by some rehabilitation technology methods.

A local barrier identification campaign involves a number of steps ranging from formulation of a plan of action to publicizing each component. Generally,

Figure 7.6

SAMPLE AGENDA FOR A HANDICAP AWARENESS WEEK

Monday	Handicap Awareness Week signs posted on physical barriers throughout the campus. Please note on posters that "Think" is spelled backwards. This is to acknowledge the learning-disabled student present on campus.
	Handicap Awareness Week focuses on physically disabled persons—those easily identified—unlike the learning-disabled.
12:00–1:00	Handicap Awareness Group Experience: group of 15 students participate in handicap simulation and discussion group.
	Art opening
	Buttons for sale—Handicap Awareness Week proceeds to defray costs of new access costs (concrete, wood, nails for ramps).
Tuesday	Handicap Awareness Group Experience
12:00–1:00	Buttons on sale
	Slide Show—"Ski for Light"
Wednesday	Honors Convocation
	Handicap Awareness Group Exercise
	Buttons on Sale
	Human Relations Class—Handicap Awareness
Thursday	President acknowledges handicapped students by being in wheelchair from 8 A.M.–2 P.M.
11:15–12:30	Handicap Awareness Luncheon. Key personnel on campus to discuss not only physical accessibility but also program accessibility (e.g., blind student taking accounting).
12:30–1:30	Key personnel and vice president in handicapping situations tour campus barriers in wheelchairs, on crutches, and with canes.
1:30–2:30	Closure of luncheon group experience during tour

the following steps are involved in conducting a barrier identification activity.

1. Meet with the administration, faculty, and handicapped learners of a vocational facility and explain the nature and purpose of the campaign. This step should result in the identification of specific concerns existing within the school population.

2. Develop and/or review the school's access plan. This plan should include a checklist of identified barriers and the strategies that the school has developed to reduce the impact of these barriers. The plan should also contain a timeline for the implementation of the strategies.

3. Record and verify the strategies suggested for reducing the negative impact associated with each barrier. The local barrier identification team should strive for consensus in prioritizing alternative means of coping with existing barriers.

4. Develop and implement a plan to minimize negative barrier impact. This plan should include a description of the barriers, a suggested strategy, a cost analysis for each modification of the facility or classroom, and a suggested timeline for the modification process.

5. Field test the modification and evaluate its effectiveness. It is likely that a modification will need additional adjustments after the implementation process has been accepted.

APPLYING REHABILITATION TECHNOLOGY TO MODIFY THE LABORATORY WORK ENVIRONMENT

The presence of architectural barriers in school facilities is a major reason why handicapped students do not participate in vocational programs. Linked closely to architectural barriers, however, are the barriers that exist in using the tools, machines, equipment, and work station apparatus involved in most vocational programs.

Performing the learning tasks in vocational programs requires the safe manipulation of a variety of materials, tools, machines, equipment, and work station apparatus. Likewise, a variety of basic behaviors are involved in performing these work tasks.

Examples of basic behaviors involved in performing vocational work tasks include:

1. crawling
2. lifting
3. grasping
4. reaching
5. sitting
6. standing
7. maintaining balance
8. kneeling or crouching
9. carrying objects
10. pulling objects
11. pushing objects
12. turning objects
13. depressing and releasing
14. using limbs quickly
15. coordinating limbs
16. detecting size, shape, texture, and position
17. detecting temperature and pressure
18. reading diagrams, schematics, blueprints, and instructions
19. exchanging information
20. making judgments
21. solving problems.

While these basic work-related behaviors are easy for students without disabilities, handicapped students with certain impairments may encounter barriers in performing them.

The three basic disability areas that handicapped learners experience in vocational programs are sensory impairments, physical impairments, and intellectual impairments. Gugerty and Tindall (1983) listed some functional problems under each of these major impairment areas as follows:

Sensory Impairments

1. limitations of sight
2. limitations of hearing
3. limitations of sensation

Physical Impairments

1. limitation of coordination
2. difficulty in lifting and reaching with arms
3. difficulty in using lower extremities
4. poor balance
5. susceptibility to fainting, dizziness, seizures
6. limitations in gross or fine motor movement of body parts
7. limitations of stamina

Intellectual Impairment

1. difficulty in perceiving and/or interpreting information
2. difficulty in learning pace/speed
3. difficulty in using traditional learning medias (books, filmstrips, movies, etc.) and teaching methodology (lectures or learning packages, labwork, library research).

Four major demands may present barriers to vocational handicapped students in the vocational laboratory environment (Dahl, Appleby, Lipe, 1978). These are physical, visual, hearing and speech, and intellectual. Examples of physical demands include the many basic behaviors involved in manipulating objects, such as grasping and twisting tools, picking up and moving objects, and feeding materials through machines. Visual demands include reading instructions, blueprints, and schematics; taking measurements; and positioning and aligning tools and materials.

Examples of hearing and speech demands include receiving information from teachers, determining whether a machine is operating properly, detecting warning signals, and communicating with peers and the teacher.

Intellectual demands include understanding instructions, recalling operational steps in performing tasks, taking accurate measurements and performing calculations, making decisions, and solving problems associated with work tasks.

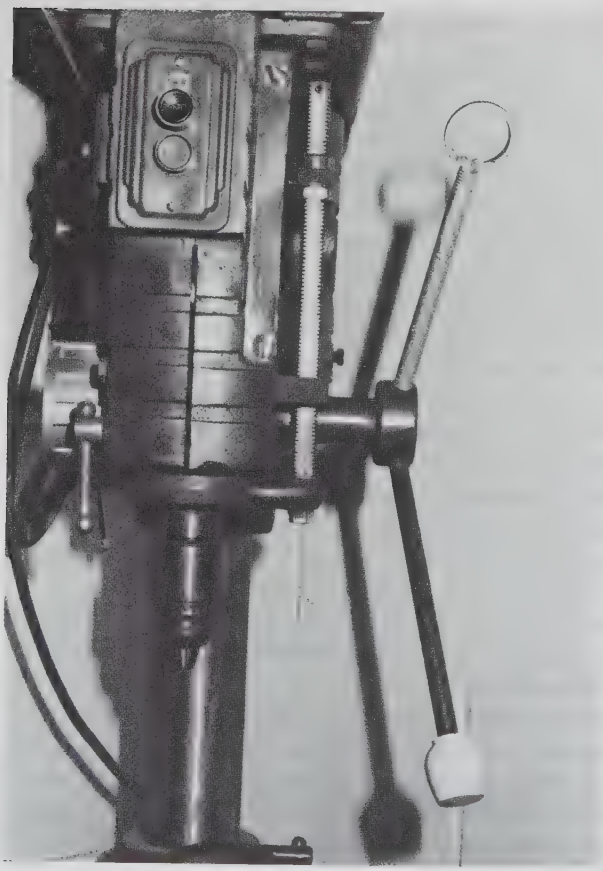
Whether these demands result in barriers for vocational handicapped students depends upon the nature and severity of their disabilities, the adjustments they have made to their disabilities, the type of prosthetic devices or aids used as well as their skill in using them, and the nature of vocational laboratory work tasks.

Vocational teachers often recognize tasks that are difficult for students to accomplish and find ways to help their students overcome whatever problems these tasks present. Frequently, changes in task procedures will enable students to perform them more easily. Sometimes an aid will need to be provided or a modification made to a tool or piece of equipment to help students overcome barriers to successful task performance.

The number of possible barriers that handicapped students may encounter in vocational programs seem unlimited. Realization of this has caused some vocational teachers to believe that extensive modifications would be needed to their laboratory work environment in order to accommodate such students. Typically, however, the extent to which modifications are needed to overcome barriers in vocational laboratories is less than teachers expect. Many handicapped students have learned how to adjust to their disabilities, and they experience barriers only when their handicapping condition makes it difficult or impossible for them to manipulate the materials, tools, machines, and equipment required to perform a vocational work task successfully. Often these barriers can be overcome by making low-cost modifications to a tool or a piece of machinery or equipment or to the work site. See Figure 7.7.

While modifications to the tools, machines, equipment, and work stations used in a vocational laboratory may be needed to accommodate certain handicapped students, unnecessary modifications should be avoided. Students who are surrounded with many special devices to assist them in performing work tasks may never learn to cope with the actual work environment in industry. The principle of helping students develop and use their capabilities to adjust to the vocational work environment should be followed to determine the modifications or aids that may be needed to help them perform work tasks.

Figure 7.7



A drill press to be used by a handicapped learner can be modified by substituting a ring in place of a knob.

TEAM APPROACH TO IDENTIFYING WORK ENVIRONMENT BARRIERS

Although vocational teachers can often recognize which work tasks will present barriers for certain handicapped students, it is good practice to use the assessment team approach described in the architectural barrier identification section of this module. The team approach provides the vocational teacher with important information about the nature of the barrier as well as ideas from experienced professionals that can be used to help students overcome a particular work environment barrier. The goal of the team approach should be to arrive at a strategy that capitalizes upon the student's ability to get the job done, even if it requires providing a special tool, an aid, or an equipment modification.

The vocational teacher is a key individual in the assessment team approach to identifying equipment or work environment barriers for a given handicapped learner. For the team approach to operate effectively, the vocational teacher must identify the critical tasks and performances in the vocational program that may cause barriers for a disabled learner. The teacher must also provide information that is precise and understandable to other assessment team members who usually are not as knowledgeable about vocational work tasks. This information will enable the team to pinpoint possible barriers and cooperatively share ideas that will result in positive intervention solutions. When barriers stand in the way of successful learning task completion for a disabled learner, it is necessary for the rehabilitation technology team to intervene and make appropriate modifications to the equipment, work environment, and task sequence. The team may also provide aids to reduce the impact of the barrier and allow task completion.

When vocational teachers are informed that they will have a handicapped student with certain identified impairments, they need to begin analyzing their classroom, laboratory, and instructional program for possible architectural and work environment barriers. Identifying possible architectural barriers is often easily accomplished, particularly if barrier identification team approach is used involving the handicapped student. However, identifying possible work environment barriers inherent in vocational learning tasks is much more demanding. Vocational teachers must identify and analyze representative critical tasks and performances that they believe may contain barriers for the handicapped student. This analysis should identify essential performances (specific sensory/physical/intellectual tasks) and the requirements for educational behavior (specific actions of students in performing learning tasks in the laboratory environment).

In performing a representative critical task analysis, a number of student observations and interviews must be completed in order to determine what abilities are necessary to accomplish a task and what abilities are perceived as necessary to accomplish the task by the vocational teacher and handicapped learner. Figure 7.8 shows the relationship between perceived skills needed and actual skills needed to accomplish a work task.

In preparing for the critical task analysis, vocational teachers should gather and prioritize all of the written materials, tests, and projects used in delivering the learning task. Vocational teachers must also arrange for qualified students to model critical task performances for handicapped learners in order to determine perceived and actual skills needed to successfully complete these tasks. Interviews must be conducted with handicapped learners after they have observed modeled critical task performances to identify any possible perceived barriers in completing the task.

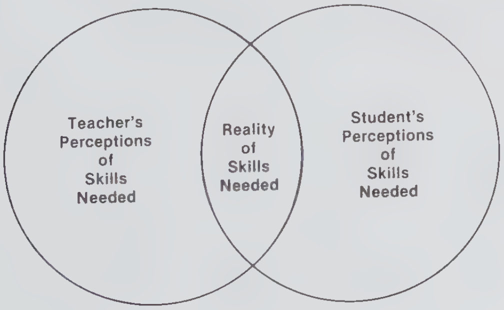
The vocational teacher and handicapped learner should record observations of critical task performances as they are being modeled. A few tips for recording observations include the following:

1. record in observational and behavioral terms
2. use the student's name only once
3. use action verbs to describe behaviors (counted, twisted, etc.)
4. use simple language, not technical jargon
5. briefly describe the behavior and situation.

Using recorded observations, each critical task must be outlined in the form of a general description of the behavior and situation and a listing of sequenced task steps. Task outlines can be checked for content accuracy by comparing them to previously developed task analysis materials such as V-TECS task sheets, and having them reviewed by students and teachers.

Figure 7.8

PERCEIVED SKILLS IN RELATION TO ACTUAL SKILLS NEEDED TO PERFORM A WORK TASK


Teacher's Perceptions of Skills Needed
Reality of Skills Needed
Student's Perceptions of Skills Needed

Developing Performance Samples

Once critical task outlines are prepared, they can be used to facilitate the development of a series of testing devices which can be used to determine a special needs learner's entry-level proficiency and to pinpoint any rehabilitation technology intervention (modification) that the teacher and/or support team may decide to implement. Albright (1979) called such testing devices "performance samples" and equated them to the more commonly known forms of vocational performance testing such as work sample evaluation, work simulation, and tool, material, equipment identification tests. These performance samples can test for student abilities to accomplish one simple task or a range of related tasks required to complete a larger work unit. Figure 7.9 shows an example performance sample for a small engine repair program.

Pilot Testing the Performance Sample. Performance sample tests should be given to a variety of students in the vocational program in order to establish needed abilities and criteria for scoring each sample. The following items are example behaviors or abilities that should be considered in addition to task steps when observing and evaluating a performance sample.

Work performance (tasks and behaviors accomplished or attempted)

1. using tools
2. reading manuals, charts
3. identifying correct numerical values
4. physical strength needed
5. coordination of motions.

Work behaviors (comments, questions, ability to attend to task)

1. need for instructions
2. frustration tolerance
3. confidence with activity
4. pace of work in the completion of task.

Developing a Performance Sample Observation/Rating Sheet

A performance sample observation/rating sheet must be developed for each sample to record student behavior on each task or steps of procedure. This can easily be done by reviewing the task steps from the performance sample and placing them on an observation/rating sheet as shown in Figure 7.10. Appropriate abilities and criteria identified in the pilot testing of each performance sample on the observation/rating sheet must be included.

Figure 7.9

EXAMPLE PERFORMANCE SAMPLE ON CLEANING, TESTING, AND REPLACING SPARK PLUGS IN A SMALL ENGINE REPAIR PROGRAM

Introduction

The small engine repair program is made up of many tasks which are performed by small engine mechanics daily in repair shops and at field sites. This performance sample involves several tasks and task steps that you will be involved in while completing the small engine repair program. This sample will give you an opportunity to demonstrate the skills you already possess, as well as identify the areas in which you may need assistance.

Objectives

Given a small engine, service manual, tools and replacement spark plug, remove, clean, test and replace spark plug in a small engine following approved procedures so that foreign materials do not enter cylinder, plug is cleaned, plug gap is set to specifications and plug is installed correctly so that engine starts and runs smoothly.

Materials Needed

A lawnmower with engine, service manual, 13/16" x 3/8" drive spark plug socket, 3/8" drive T-handle, 3/8" drive torque wrench handle, wire feeler gauge, ignition file, pen knife, wire brush, parts brush and pan of petroleum solvent (mineral spirits or kerosene).

General Instructions

First check to see that all tools and materials are available. Second, read each step of the procedure listed below carefully. Notify the test administrator that you are ready to begin the performance sample. Be sure to think and practice safety during the entire activity. Notify the test administrator when you have completed the task and are ready to discuss your performance.

Steps of Procedure

1. Disconnect spark plug wire from the spark plug.
2. Loosen plug several turns and remove dirt from plug and area around plug.
3. Remove spark plug.
4. Remove gasket if it remains on head.
5. Reconnect spark plug wire to plug.
6. Ground the spark plug to the engine.
7. Crank the engine several turns.
8. Observe the spark at the electrode.
9. Disconnect spark plug wire.
10. Check condition of the plug.
11. Clean plug.
12. File and reshape electrode.
13. Set electrode gap to manufacturer's specifications.
14. Replace plug and tighten with fingers.
15. Tighten plug and torque to specifications.
16. Test start and run engine.
17. Clean up work area.
18. Self evaluate your performance sample behavior.

Figure 7.10

EXAMPLE PERFORMANCE SAMPLE EVALUATION/RATING SHEET

Student______________________________Date________________

Performance Sample____________________________________

Evaluator____

Directions: Rate the student's level of performance on each indicator by placing an "E" in the upper diagonal portion of the box if you are the evaluator and an "S" in the lower diagonal portion of the box if you are a student.

N = None, P = Poor, F = Fair, G = Good, E = Excellent

Level of Performance

	0	1	2	3	4
PERFORMANCE INDICATORS	N	P	F	G	E
1. Obtained and organized necessary tools and materials			E/	/S	
2. Disconnected spark plug wire				E/S	
3. Loosened plug and removed dirt from plug area					E/S
4. Removed spark plug and plug gasket				E/	/S
5. Reconnected spark plug wire to plug					
6. Grounded spark plug to the engine					
7. Cranked engine several times and observed spark					
8. Disconnected spark plug wire					
9. Checked condition of the plug					
10. Cleaned plug					
11. Filed and reshaped electrode					
12. Set electrode to specifications					
13. Replaced plug and tightened with fingers					
14. Tightened plug and torqued to specifications					
15. Test started and ran engine					
16. Cleaned up work area and returned tools and materials					
17. Self-evaluated performance using rating sheet					

Level of Performance
All items must receive Good or Excellent responses. If any items received a None, Poor, or Fair response, the learning or part of it must be repeated. Discuss this with your teacher.

Grade Conversion

0	1	2	3	4
U	D	C	B	A

Student Signature________________________Evaluator's Initial________

Notes (Observations)

Work Performance:

Work Behavior:

Student's reaction to
performance sample

Conclusions from Observations

(continue on back of page)

Administering the Performance Sample

The performance sample can be administered by the vocational teacher alone or it can be administered by both special education teachers and support personnel. Cobb and Larkin (1984) indicate that assessment processes are enhanced when there is interaction of student, school personnel, and curriculum.

The first step in administering the performance sample is to interview the student. The purpose of the interview is to gather and share some preliminary information with the student. Data gathered from this interview process should include:

1. the purpose and requirements of the vocational program;
2. student vocational interests and goals of program;
3. personal/social/environmental factors involved in the vocational program;
4. physical/mental/sensory capabilities required for success in the program.

The interview should facilitate the development of a relationship with the student and be used to develop a specific assessment strategy. The assessment strategy should assist in selecting the performance sample. Some criteria to assist in the selection are:

1. What are the questions needed to be answered about the student's capabilities?
2. Is there adequate background information about the student in order to use a specific performance sample?
3. Will the sample provide the information effectively to school and community resources?
4. Is there backing from support staff to implement the performance sample and use the results in an appropriate, effective, and efficient manner?

The next step is to provide an orientation concerning the performance sample to the handicapped student. The orientation should explain how the performance sample was developed and what the student will learn from the performance sample experience. The explanation should include a description of what the performance sample measures, applicable course curriculum, and any questions that the student might have before attempting the performance sample.

Following the performance sample orientation the handicapped learner should have an opportunity to practice performing the tasks/task steps involved in the performance sample. The practice session will ensure that:

1. the student perceives and understands the instructions;
2. the student has been taught the proper use of the tools and equipment of the performance sample;
3. the student has learned the performance and behaviors necessary in the sample;
4. the student knows what the desired outcomes of the performance sample are and how they will be used to help each student.

After the student has practiced the performance sample and has indicated readiness to perform the sample, a formal test time should be scheduled in order to involve the support team in the assessment process. At an appropriate time, the student performs the sample while the instructor and support team members observe and record demonstrated behaviors.

Evaluating and Using Performance Sample Results

The results of the performance sample assessment should be shared with members of the support staff and with the student in order to develop a plan for implementing modification to the vocational program. Performance sample results can be used to:

1. make decisions about a student's entering skill level and familiarity with the program;
2. identify support service areas;
3. identify critical areas for which the student support team may need to provide technological intervention or modifications.

An analysis of the performance sample observation/rating sheet should show those task steps that do not meet criteria level. The vocational teacher and support team personnel can then generate questions about each weak or unsatisfactory behavior such as those shown in Figure 7.11 and jointly devise possible technological interventions (modifications) and recommend additional support services such as academic remediation in reading, mathematics, work adjustment services, or counseling. A direct result of this evaluation process should be an estimate of the handicapped student's functional limitations that might be minimized by infusing adaptive devices or technically modifying the vocational curricula, tools, and equipment.

At this point it is important to involve other members of the school and/or community. Individuals who can provide input and rehabilitation technology services include (1) vocational rehabilitation personnel, (2) rehabilitation engineers and technicians, (3) handicapped specialists, and (4) medical personnel. The use of resources depends upon the severity of the disability and the nature of the assistance and/or modifications required in the vocational program. Some general rules to observe in the modification process that emerge from the school/community-based rehabilitation technology support team are:

1. Make modifications based on the needs of the individual student. The vocational teacher should

Figure 7.11

EXAMPLE PROBLEM SOLVING QUESTIONS WITH POSSIBLE REHABILITATION TECHNOLOGY SOLUTIONS

Questions	Possible Solution
Is There a Problem With:	
Access?	Remove barriers (change doorknobs to levers)
Movement?	Rearrange materials for freedom of movement (use flexible work table with lifts)
Safety?	Eliminate danger (use jigs or fixtures to hold hot materials in welding)
Mobility?	Reposition job site (provide ramps to classroom lab or move class setting)
Difficult procedure?	Simplify approach (use a digital volt–ohm meter to measure electrical forces)
Judgment?	Reduce the need (present measuring cups in lab activities)
Counting?	Change procedures (use check sheets for tasks or visible samples in labs)
Measurement?	Provide a standard (use colored lines on a precut board)
Reading materials?	Provide tape recording of material (use devices such as voice emulators)
Strength?	Provide a tool or assist (use a hoist or holder)
Touch or feeling?	Texture surface (use sandpaper textures glued to switches and colored guides)
Vision?	Improve lighting or develop orientation guides (use VCR equipment to magnify reading material)
Hearing?	Develop alternative teaching methods (use visual models or examples to illustrate material)

remember that disabilities vary greatly even among people who have the same type of disability.

2. Avoid placing expectation of success or failure upon the handicapped student's ability to perform a vocational task. Vocational teachers may have difficulty in seeing how a handicapped student can perform a task, but they fail to realize how individuals can compensate for disabilities. The handicapped learner is one of the most valuable sources of input leading to solutions for problems involving access.

3. Make modifications only to the extent that permits the student to engage in a meaningful and productive educational experience.

4. Use conventional tools, equipment, and materials whenever possible.

5. Make sure that the problem is not the result of a policy barrier. For example, time limits and established procedures may mitigate against some learners and serve no legitimate purpose.

6. Keep the environment flexible enough to accommodate the differences and preferences of individual students.

7. Consider the practical cost factors involved in a technological intervention (modification). Solutions in terms of priority of cost usually follow a pattern of:

a. standard unmodified equipment

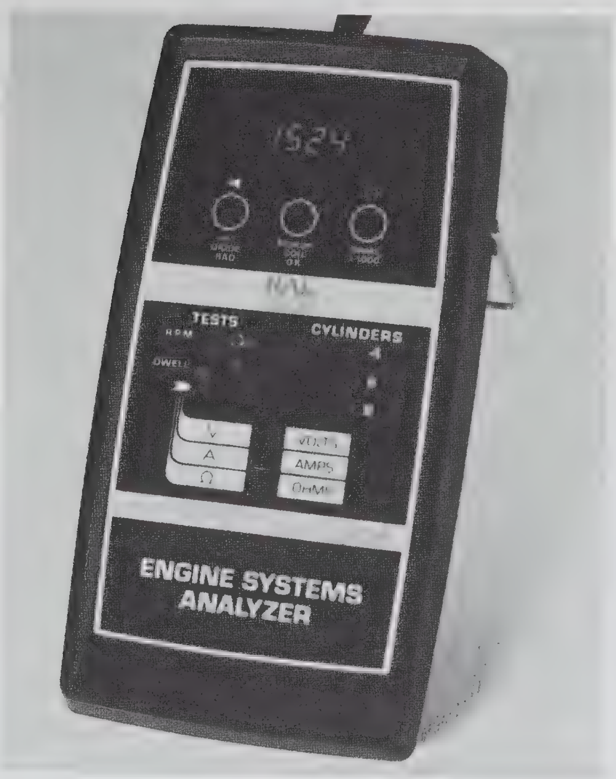
   b. standard equipment with modifications
   c. specially designed equipment, commercially available
   d. adapted commercially available special equipment

8. Remember that change often creates anxiety, insecurity, and resistance. Handicapped learners will be more positive to change if they have meaningful input into the design, development, and evaluation of the modification process.

Vocational Teacher Responses to Identified Barriers

Vocational teachers can make three general responses when equipment or work environment barriers are identified through the barriers assessment team process. The first response is to select tools, machines, equipment, furniture, and other devices that are as barrier-free as possible. For example, vocational teachers can select digital readout engine analyzers, which are easier to read than conventional meter faces. See Figure 7.12.

Figure 7.12

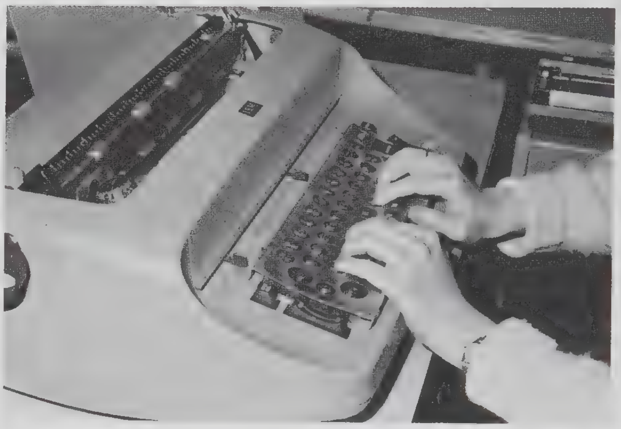


A digital readout engine analyzer eases the reading for handicapped learners. (Kal-Equip Co., Ostego, MI)

A second response is to assist students in obtaining commercially available aids or devices that will help them manipulate tools, machines, and equipment required to perform work tasks. See Figures 7.13 and 7.14.

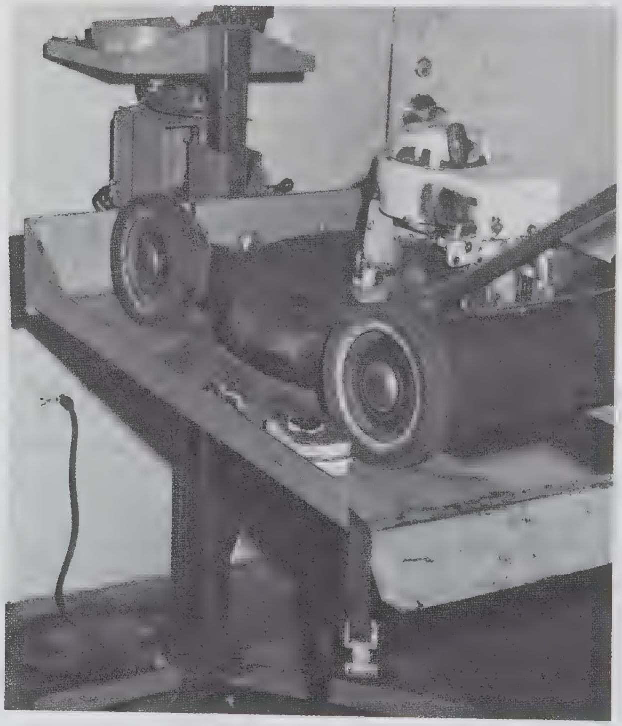
The third response is to alter or modify tools, machines, and equipment so they are usable by handicapped students. See Figure 7.15.

Figure 7.13



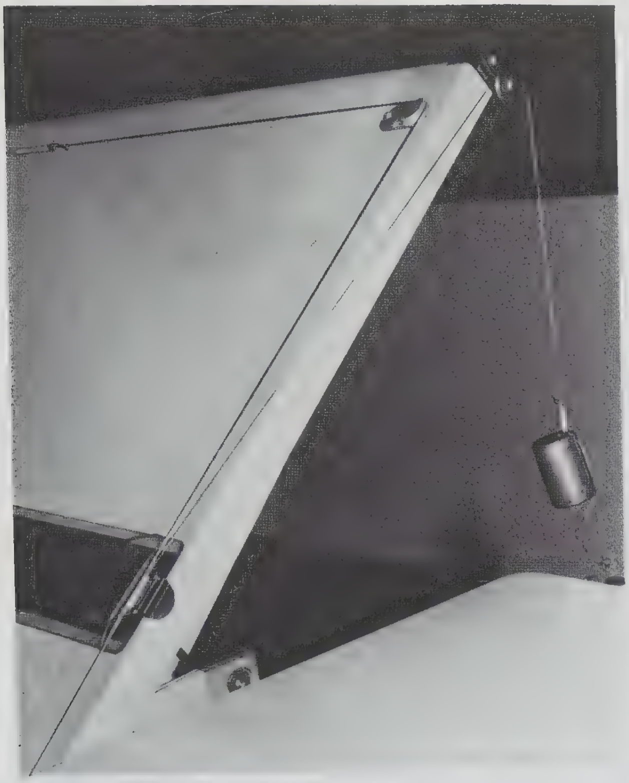
A commercially available typewriter template can be used to improve hand and finger control for a handicapped learner.

Figure 7.14



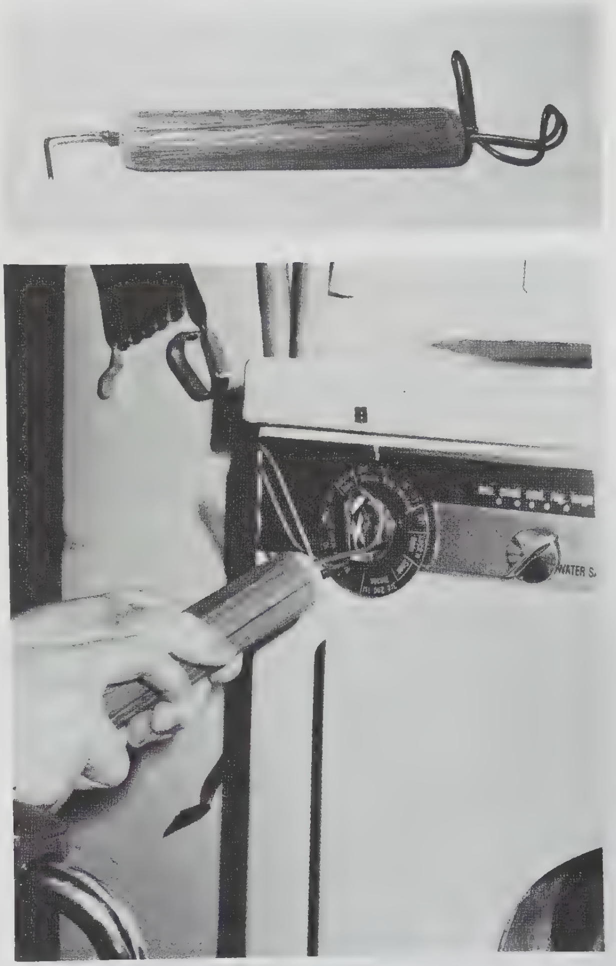
A commercially available lawn mower lift provides the necessary working height in a small engine repair program.

Figure 7.15



By adding a counterbalance to a parallel bar drafting table, the desired position can be maintained.

Figure 7.16



Aids necessary to accommodate handicapped students can be designed and constructed by the vocational teacher.

The type of response that vocational teachers can make when they identify work task related barriers depends upon the options available to them. Because of cost, it is often difficult to obtain new tools, machines, and equipment that are barrier-free. Sometimes aids can be purchased for handicapped students and be paid for by vocational rehabilitation funds or by some other out-of-school funding source. The option of devising aids or modifying the vocational work environment may be the most feasible and appropriate option.

Vocational teachers can obtain ideas for modifying tools, equipment, and work environment from their handicapped students, special education personnel available in most school systems, vocational rehabilitation counselors, and rehabilitation technology engineers and technicians employed at medical and rehabilitation centers. The materials and machines required to make aids and modifications are usually available in the vocational school. All that is normally needed are vocational teachers who want to and have the ingenuity to construct aids or modify their laboratory environment and equipment to accommodate handicapped students. See Figure 7.16. A simple teacher-made aid is constructed to help a student with limited arm and hand strength to turn dial controls on equipment in a home economics program.

Available Aids, Tools, Machines, and Equipment

Increasing amounts of specially designed aids, tools, machines, equipment, and furniture are available to accommodate handicapped students. These items can be found in school supply catalogs and in catalogs published by special institutes, agencies, and foundations for the handicapped, such as the American Foundation for the Blind.

Examples of commercially available devices include telephone aids that cover a wide variety of communication problems, electronic calculators and computers that convert keyboard signals into tape and video displays that can be read, reading devices that permit visually impaired persons to read the printed word, sonic guides to aid the blind in mobility, and a wide range of tools and instruments that use tactile markings and auditory sounds to take measurements, such as combination squares with raised dots and audible multimeters.

Information about commercially available devices is available from special education personnel in school systems, vocational rehabilitation counselors, or from State Department of Education consultants. These sources usually have libraries of materials from which vocational teachers can draw to help them identify possible devices for their handicapped students.

SUGGESTIONS FOR WORK ENVIRONMENT MODIFICATIONS

The remaining section of this module will present a number of suggestions for eliminating or reducing work environment barriers by modifying tools, machines, equipment, furniture, and work stations to meet the specific needs of handicapped students.

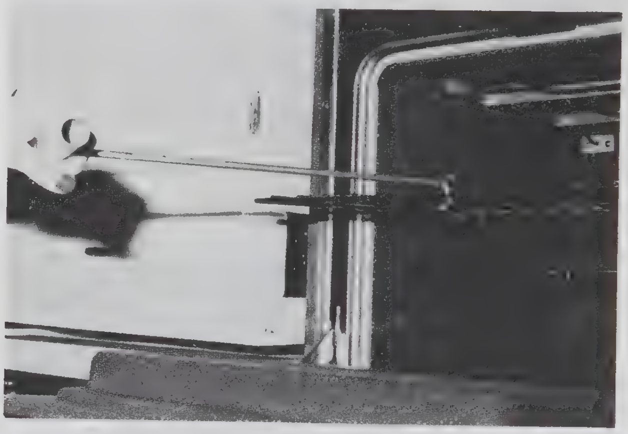
In addition to the suggestions found in this module, an excellent source of information about aids and modifications is the Wisconsin Vocational Studies Center. This organization provides a catalog containing listings of commercially available equipment as well as a wide variety of aids and modifications to tools, equipment, and machinery in relation to 25 skill areas and 7 disability areas. This catalog is very useful for vocational teachers who need ideas about aids and modification required in their laboratories to accommodate handicapped students.

Modifying the Work Environment for Wheelchair-confined Persons

The major barriers for wheelchair-confined students are those that prevent them from getting to the work site; reaching tools, materials, and equipment controls; and keeping work materials at an appropriate level. Suggestions for helping students overcome these barriers are:

1. Rearrange machines and work station furniture so that adequate space is provided for aisles and around work stations and power equipment.
2. Alter the height of furniture such as workbenches and tables and remove barriers that limit knee space.
3. Adjust table tops (such as those on drafting tables) to make them accessible to wheelchair-confined students.
4. Mount semi-stationary equipment (such as grinders) on adjustable bases.
5. Rearrange storage areas for tools and supplies into low cabinets or shelves.
6. Position tools and materials as near to the work station for handicapped students as possible.
7. Remove any power cords from floors that may obstruct wheelchair mobility.
8. Place small parts, tools, and other items in trays that are accessible.
9. Secure or devise a tray that can be fitted over the arms of a wheelchair to provide a work area.
10. Provide an aid or tool that can be used to reach tools, materials, parts, or work apparatus such as reachers, giant tongs, grocer's hooks, and other devices. See Figure 7.17.

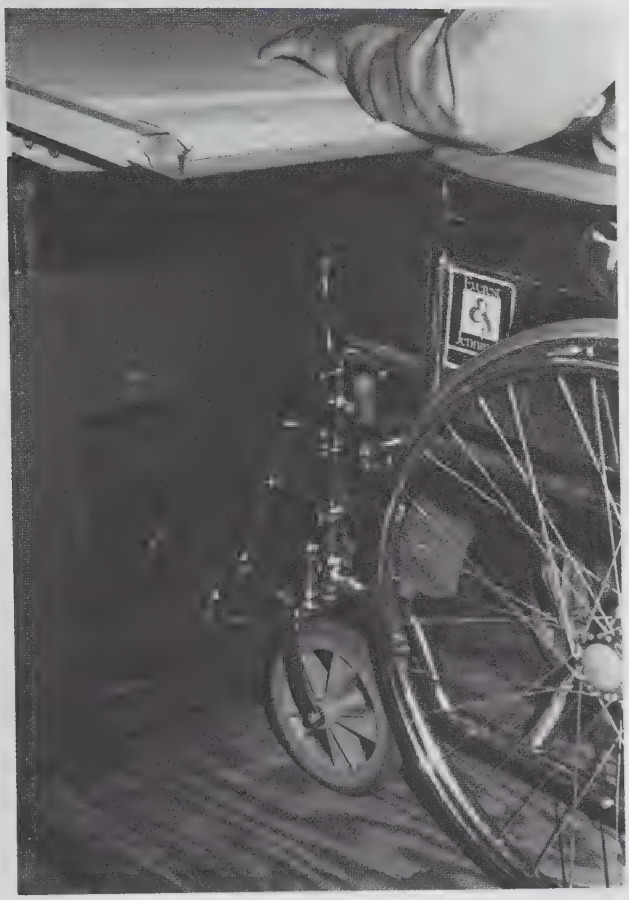
Figure 7.17



An extension hook enables a wheelchair-confined food service student to move oven racks.

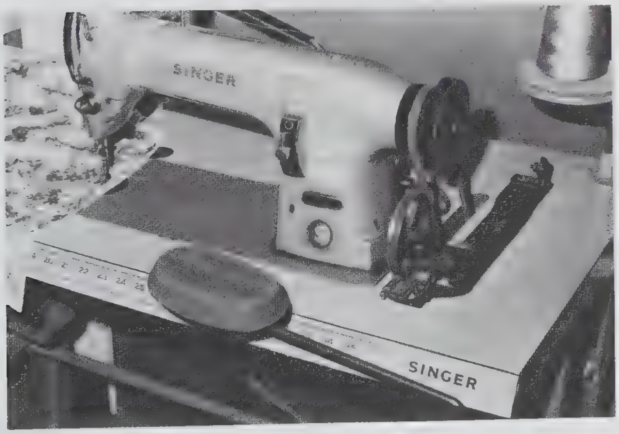
11. Provide ramps where it is difficult to adjust furniture, machine, or equipment height. See Figure 7.18.
12. Convert controls or switches on machines and equipment that use foot pedals or hand or arm operated devices. See Figure 7.19.
13. Relocate rear-mounted switches and controls on machines and equipment, placing them near the front for easier access.
14. Secure or devise an adjustable work-holding device such as the mower lift shown in Figure 7.14.
15. Lower adjustable stationary power tools or machines such as a standard floor-mounted drill press.
16. Position bench-mounted power tools on the ends of benches to provide access on at least two sides.

Figure 7.18



A student in a wheelchair has access to a drafting table by using a ramp constructed by the teacher.

Figure 7.19



Substituting an arm control for a foot control allows a wheelchair-confined student to operate a commercial sewing machine.

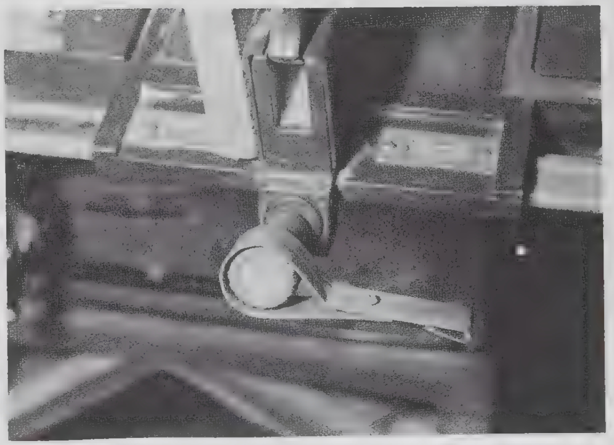
Modifying the Work Environment for Students with Upper Extremity Disabilities

Vocational teachers may work with students who have any number of upper extremity disabilities. These disabilities include unsteadiness of upper limbs; lack of finger and hand dexterity; lack of arm, hand, and finger strength; and amputations of limbs. These disabilities often result in barriers to reaching, grasping, holding, and manipulating objects such as tools, materials, machine controls, and equipment handles.

The following suggestions may help vocational teachers overcome barriers for students with upper-extremity disabilities.

1. Modify machine controls so they can be operated with prostheses such as an arm hook (Figure 7.7).
2. Replace doorknobs and other knob controls with handles or levers when possible. See Figure 7.20.

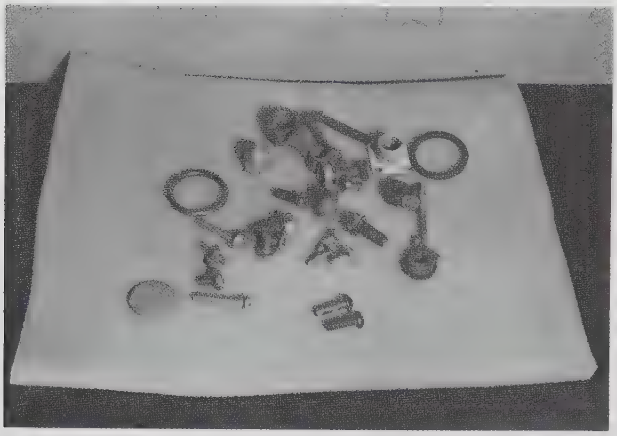
Figure 7.20



A knob converted to a lever on the rip fence of a table saw allows for easier operation by the special needs student.

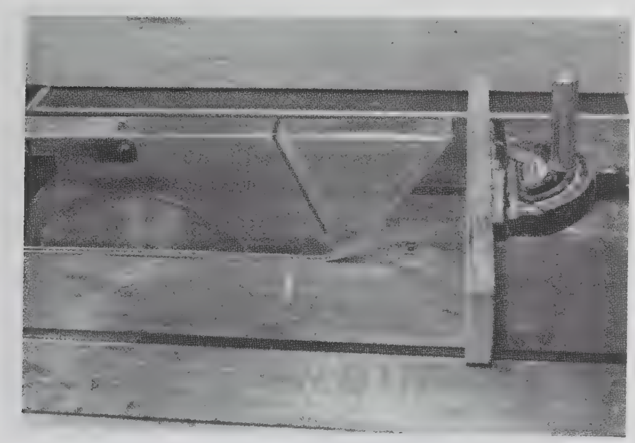
3. Convert hard-to-turn machine and equipment controls to levers.
4. Convert electric or electronic equipment using knob-type or ON-OFF switches, or adjust controls to toggle switches, levers, or slide-adjustment mechanisms.
5. Provide the student with an aid that increases mechanical advantage in manipulating controls.
6. Place small parts or instruments on a foam pad to aid students in picking them up. See Figure 7.21.
7. Place guards on all power equipment. See Figure 7.22.
8. Select tools that require only one hand to operate, such as split screwdrivers, which hold screws and bolts for starting.

Figure 7.21



Using a foam pad helps handicapped individuals pick up small parts.

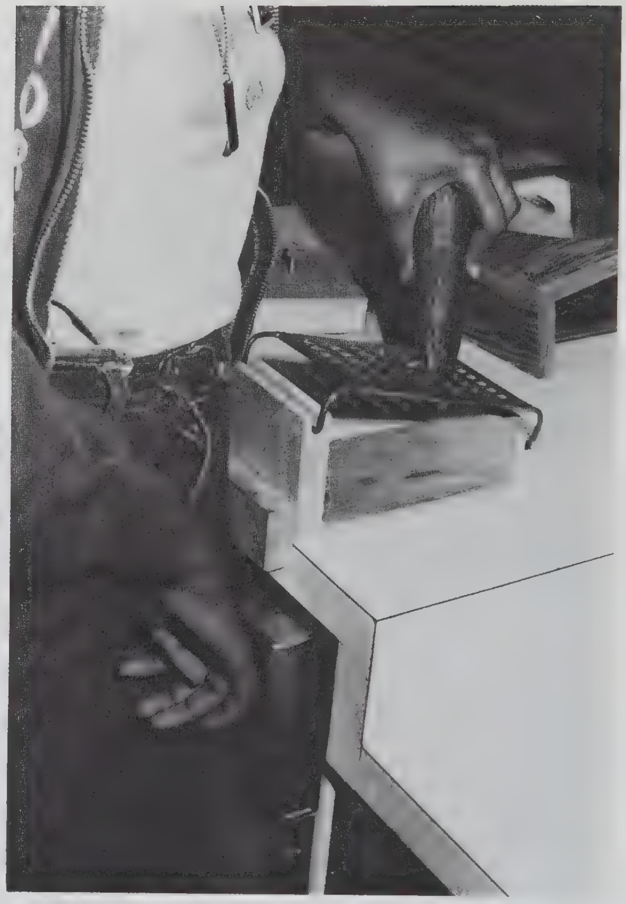
Figure 7.22



A table saw with a proper guard prevents injury to operators.

9. Convert machines and equipment that have hand controls to the foot pedal type when possible.
10. Secure or devise holding devices such as vacuum vises, stationary vises, clamps, nonslip pads, and jigs and fixtures that permit one-hand operation. See Figure 7.23.
11. Provide the student with tools that supply more mechanical advantage to loosen or tighten screws or bolts, such as a lever-type socket set or an offset screwdriver.
12. Select power tools that reduce the level of pressure or force required to perform a work task—for example, a circular saw greatly reduces the need for hand and arm strength.

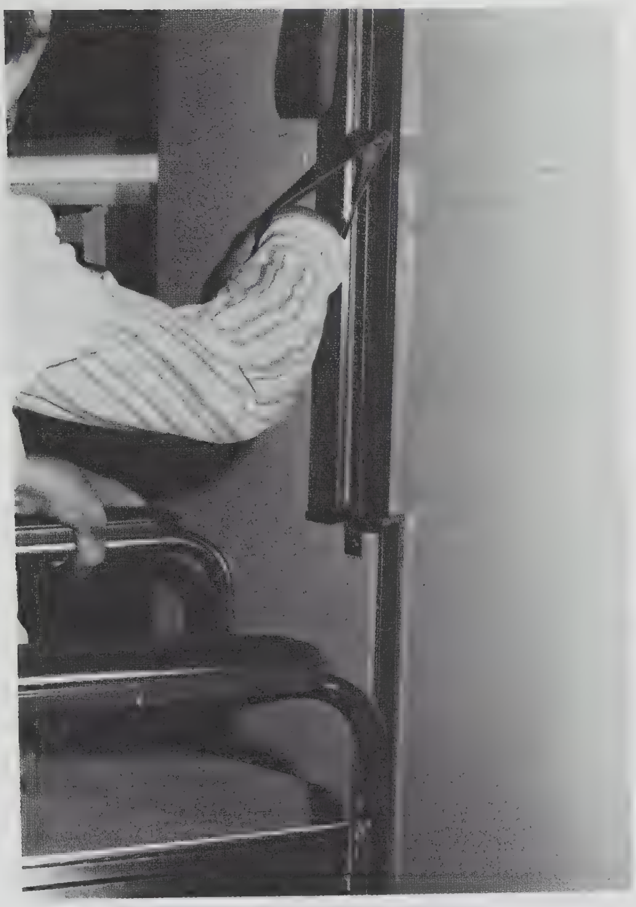
Figure 7.23



A holding device enables the handicapped student to grate vegetables with one hand.

13. Increase the size of tool handles or pencils by replacing them with larger diameter handles or by enlarging them with tubing or tape wrappings.
14. Attach straps to appliance handles and other objects to allow them to be opened more easily. See Figure 7.24.
15. Attach handles to or drill holes in flat objects such as steel rulers, flat steel squares, T-squares, and parallel bars to make them easier to grasp and manipulate.
16. Select machines that do not require two-hand operation, such as a radial arm saw instead of a table saw.
17. Provide templates to aid drafting students who have trouble manipulating standard drafting instruments.
18. Obtain or construct required braces, straps, or other supports for students who have problems controlling their limbs.

Figure 7.24



A strap is attached to a freezer door to allow easier access by the handicapped student.

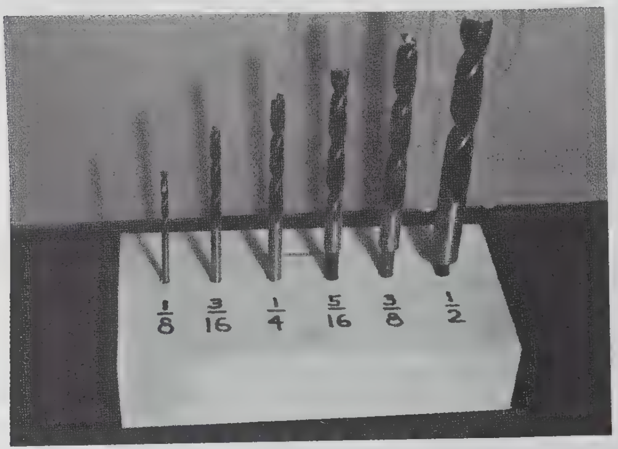
Modifying the Work Environment for Students with Visual Impairments

Students with visual impairments may encounter a number of barriers in performing work tasks that require reading instructions, schematics, blueprints, and drawings; taking measurements; positioning and aligning tools and materials; and other tasks requiring good eyesight.

The following suggestions may help vocational teachers who are looking for ways to help students overcome barriers caused by impaired or lost vision.

1. Make transparencies of reading materials required to perform work tasks and project them with the overhead projector.
2. Employ a videotape system with large screen monitors, if available.
3. Purchase commercially available measuring tools with raised or engraved markings that can be read by touch, such as steel tapes, rules, combination and flat steel squares, and micrometers.
4. Purchase measuring devices that provide auditory signals, such as audible multimeters and audible thermometers.
5. Select digital readout measuring devices such as tack/dwell meters, multimeters, and timing devices (Figure 7.12).
6. Enlarge markings on tools, tool holders, or machine controls that normally require only a few markings. See Figure 7.25.

Figure 7.25



A drill bit holder with the sizes written out in large numbers helps the partially sighted student identify the correct bit.

7. Provide jigs, guides, and templates to aid students in positioning and guiding tools. See Figure 7.26.
8. Provide magnifiers and/or illuminated magnifiers to assist partially sighted students. See Figure 7.27.
9. Provide relief markings on tools by scratching lines at appropriate locations.
10. Identify controls by changing their size, shape, or texture.
11. Modify a standard tape recorder by using labeling tape or other tape markings to designate the different controls.
12. Assist the student in obtaining appropriate communication aids and devices such as the Optacon, talking calculators, and other electronic equipment.

Modifying the Work Environment for Students with Hearing and Speech Impairments

Students with hearing and speech impairments may encounter a number of barriers when communicating with others, detecting warning signals, determining proper machine and equipment operation, and sharing information with teachers and fellow classmates. On the other hand, students with these two types of disabilities usually experience fewer work environment barriers than those who have physical or visual disabilities. Many vocational work tasks can be performed successfully without good hearing or speech, although it is often much safer to be able to hear sounds emitted by tools and machines as students perform operations on materials.

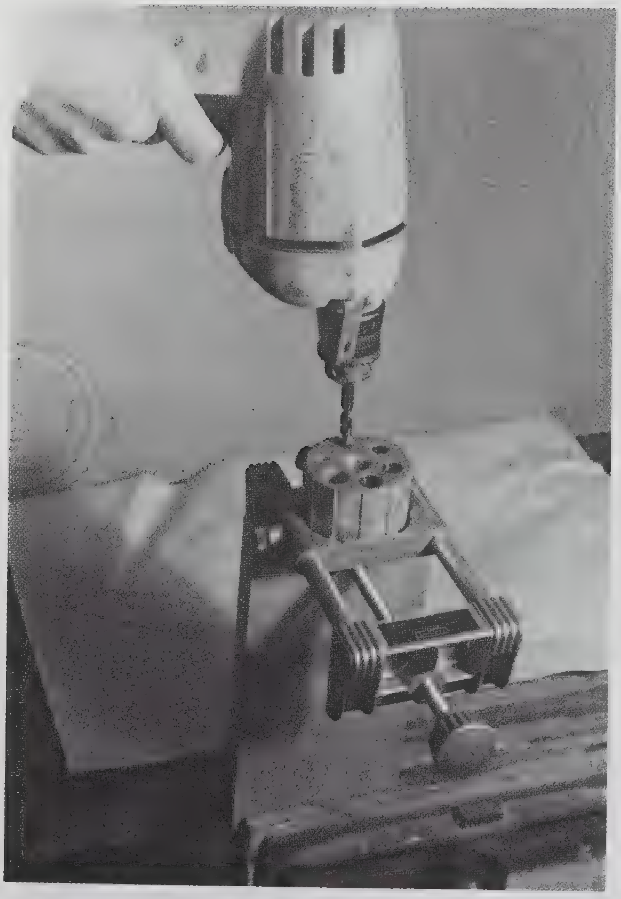
The following suggestions may help vocational teachers who have students with hearing and speech impairments:

1. Help the student obtain aids and devices that can improve partial hearing, such as personal sound systems. Vocational teachers can find many of these devices in catalogs and brochures normally kept on file by special needs professionals.
2. Install visual warning lights on machines and equipment to signal when they are in operation.
3. Install amplification devices on auditory warning signals so they can be heard by those with partial hearing.
4. Use visual timers in place of those that emit sounds.
5. Use lip movements and sign language when communicating to hearing impaired students.
6. Convert information that is available only on cassettes and films to scripts that can be read.
7. Provide written instruction through handouts, information sheets, and chalkboard displays.
8. Help students with speech disabilities obtain aids and devices such as the talking calculator, the artificial larynx, or any of a variety of other devices that either support available speech skills or substitute for speech communication.
9. Provide extra time in communicating with students who must talk slowly.
10. Obtain the services of a sign language translator if necessary or learn basic sign language.

Modifying the Work Environment for Students with Mental Disabilities

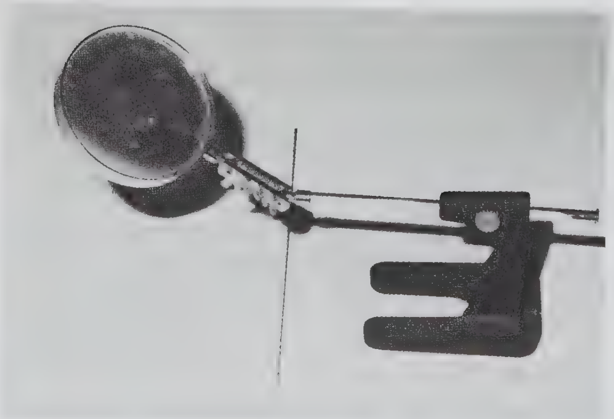
Students with mental disabilities (such as the mildly retarded) may encounter barriers in completing complex tasks because of the memory and comprehension factor. Normally these students can learn to use tools, machines, and equipment without modification, but often the procedures to accomplish work tasks must be altered. For example, breaking work tasks into small steps, as discussed in Module 8, is one technique proven to be successful in helping these students to ac-

Figure 7.26



A doweling jig allows the visually impaired student to position the drill bit in the correct location.

Figure 7.27



Partially sighted students can use a magnifier when working with small parts or reading small print.

complish tasks.

The suggestions that follow may help vocational teachers who have students that encounter work task barriers due to mental disabilities:

1. Analyze work tasks and break them into small steps.
2. Provide operation sheets or worksheets that have step-by-step instructions for accomplishing tasks.
3. Devise jigs, fixtures, templates, and guides to simplify work task operations.
4. Color code machine and equipment controls according to function for easy identification.
5. Teach students to obtain and organize their tools and materials before beginning work tasks.
6. Place small parts that must be assembled into divided trays in sequential order.
7. Construct or provide completed objects or models so that students can see what their work task results should look like.
8. Employ peer tutoring, or the "buddy system" technique, to help students accomplish complex work tasks.

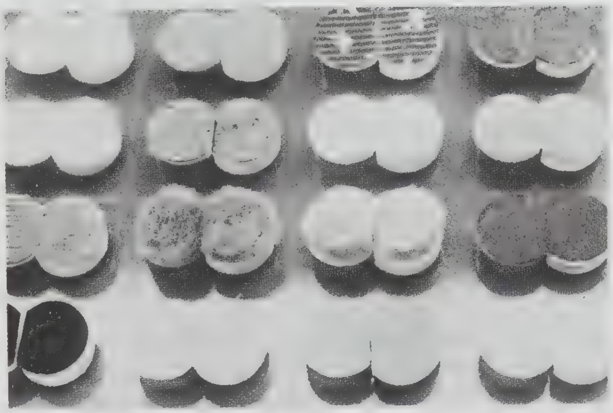
FUTURE IMPLICATIONS OF REHABILITATION TECHNOLOGY FOR SPECIAL NEEDS LEARNERS

Using rehabilitation technology to identify and provide solutions to architectural and work environment barriers in vocational education programs and at work sites will increase in the years ahead as educators and employers increase their understanding of the process and realize the results gained by disabled individuals. Applying technology to adaptive devices for the handicapped learner will also continue, resulting in new freedoms for disabled individuals. Some of the more recent developments in the field of adaptive devices available for handicapped learners are:

1. braille printers
2. large print displays
3. alternate keyboards
4. speech synthesis devices
5. speech recognition devices
6. keyboard emulators.

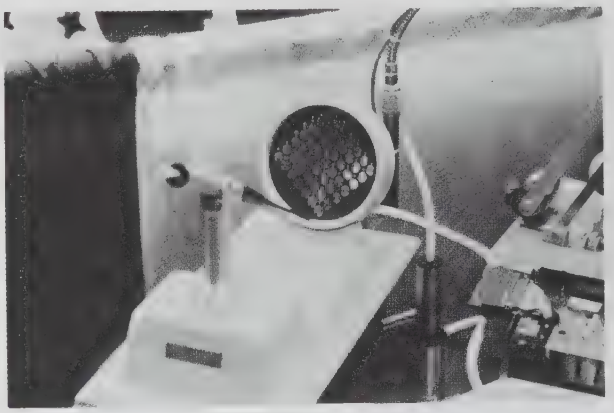
See Figures 7.28 and 7.29.

Figure 7.28



A tactile keyboard allows visually impaired students to input data.

Figure 7.29



A mouth-controlled keyboard is used by severely disabled individuals (quadraplegics).

The expanding use of the computer to control work processes will continue to create new jobs for qualified individuals in nearly every type of work setting. Sarkees and Kingsbury (1984) noted that changes in employment will increase the need for computer literacy for special populations in the future. It is estimated that nearly half of all jobs by 1990 will use computers in some capacity. As a result of continuing computer applications in the work place, vocational educators should keep abreast of modifications that are available for computers and their respective software.

SOURCES OF INFORMATION ABOUT COMPUTER USE FOR SPECIAL POPULATIONS

The latest popular computer magazines contain a wealth of products that might be useful in adapting computers for handicapped learners. Three additional sources that the vocational educator could review in investigating the use of computers for special needs learners are:

1. Special net - a computer communication network run by the National Association of State Directors of Special Education, 2021 K. Street, N.W., Suite 315, Washington, D.C. 20006, Phone (202) 296-1800.

2. Linc resources - a special education software center, Linc Resources, 3857 North High Street, Columbus, OH 43214, Phone 1-800-327-5892.

3. "Closing The Gap" - a training organization that provides a newspaper on the delivery of technology for the handicapped, P.O. Box 68, Henderson, MN 56044, Phone (612) 248-3294.

SUMMARY

In past years, handicapped students have been denied their right to participate in vocational programs because of architectural and work environment barriers. Today, however, this situation is changing. Vocational educators, with the added incentive of federal legislation, are identifying architectural barriers in their facilities and taking measures to eliminate them.

Vocational teachers, working cooperatively with special education and rehabilitation technology personnel from the community and state, are identifying barriers caused by the physical, visual, hearing and speech, and intellectual demands of the work environment. Using the assessment team approach, these professionals are using the expanding knowledge and advancements of rehabilitation technology to make appropriate responses to the work environment barriers they identify.

Sometimes these responses involve purchasing special tools, equipment, and devices for use by handicapped students. Typically, however, the most appropriate responses are to provide or construct simple aids that allow students to accomplish work tasks with standard equipment, or to make simple, low-cost modifications to their laboratory work environment.

Provided with accessible vocational facilities and modified work environments when necessary, handicapped students can learn to perform most laboratory work tasks successfully and thereby prepare themselves for satisfying, productive employment.

The future prospect for special needs learners to obtain appropriate vocational training and subsequent employment in the workplace looks brighter than ever as educators and employers learn more about rehabilitation technology and how this field of study can be used to remove training and occupational barriers or reduce their impact. The continuing use of computers and robots to do physically demanding work also provides additional employment opportunities for physically disabled individuals. Rehabilitation technology is an exciting field of study, one in which both vocational and special needs educators should keep informed.

SELF ASSESSMENT: REHABILITATION TECHNOLOGY AND VOCATIONAL PROGRAM AND EQUIPMENT MODIFICATION

1. Describe the laws that guarantee handicapped persons access to vocational school facilities.
2. What is rehabilitation technology? List its goals.
3. Why is access to programs and modification of vocational tools and equipment important?
4. What are architectural barriers? List some common barriers in getting to vocational buildings, entering them, and moving about inside them.
5. Describe what laboratory work environment barriers are and give several examples of them.
6. Identify the three major disability areas in which special needs learners are impaired and list some example limitations under each area.
7. Describe the assessment team approach to identifying barriers.
8. What is the purpose of developing a performance sample in the vocational classroom?
9. What are the steps involved in the administration of a performance sample?
10. List some of the resources that can provide information and services for modifying vocational programs, facilities, and tools and equipment.
11. Give some examples of flexible, barrier-free tools, machines, and equipment that could be used for students with physical disabilities.
12. Give some examples of things you could do to modify your laboratory work environment for persons with visual and auditory impairments.

ASSOCIATED ACTIVITIES

1. Contact personnel in your school who are in charge of modification of buildings and grounds. Discuss the facility plan for eliminating or removing facility barriers.
2. Review with local school personnel any interagency agreements that may have been developed to provide rehabilitation technology services to handicapped learners.
3. Develop a performance sample in your specific occupational area and field test your forms and processes on some fellow students to review the procedure involved.
4. Visit a local rehabilitation office and interview resource people to determine what sort of adaptations have been used successfully with handicapped individuals.
5. Develop a community resource guide that lists the rehabilitation technology resources in your area.

6. Participate in an assessment team in studying barriers and recommending possible solutions to eliminate or reduce them.
7. If you have handicapped students with certain disabilities, analyze your work tasks and work environment to identify possible barriers that may confront them.
8. Secure catalogs of special equipment and devices from the libraries of special education personnel in your school or community and familiarize yourself with what is available to help handicapped students.
9. Construct a simple aid to help a handicapped person perform a work task in your laboratory.
10. Make appropriate modifications to your work environment—including tools, machines, and equipment—to accommodate handicapped students.

CASE STUDY: LEROY'S STORY

LeRoy is a 12th grade student enrolled in a welding program. He is interested in working in metal fabrication and would like to run his own shop someday. LeRoy's greatest problem is that he has Athetoid Cerebral Palsy and, as a result, has great motor control difficulties and difficulties in controlling movements of hand and wrist on his left side. He has several hobbies, which include caring for his pet dog and helping on his uncle's farm.

LeRoy's work history has been limited to working as a hand sander 16 hours a week for approximately two months during the summer of his junior year and some light housekeeping duties in school.

As a result of an adaptive physical education program LeRoy received additional physical therapy, which improved his shoulder movement and his left elbow range of motion, and increased his standing stability.

At the beginning of the year the welding teacher, with help from the rehabilitation technology support team, administered two performance samples that identified the following assets and limitations. LeRoy has shown continued progress in operating a gas metal-arc welder this year and has successfully completed his secondary metal fabrication program. LeRoy has been accepted to the welding program of the postsecondary vocational technical school located in his area for the fall. He has also accepted part-time employment in the farm machinery repair shop, which his vocational teacher helped him obtain.

The following are LeRoy's performance sample results.

Assets

1. has a cooperative attitude;
2. uses body parts to steady work;
3. is able to sit for at least three hours;
4. can follow simple diagram and picture;
5. can follow simple verbal instructions well, especially with performance demonstrations;
6. persists on difficult tasks;
7. can lift and stack 35-pound items;
8. is able to determine details in drawings and pictures.

Limitations

1. has difficulty with written instructions;
2. is limited in manual and finger dexterity on his left side;
3. has poor bimanual coordination;
4. has difficulty in stabilizing tools;
5. has a low rate of performance (speed);
6. lacks neatness.

After careful review and discussion of the two performance sample results, the rehabilitation technology team devised a padded bench for LeRoy to use in steadying his left arm. In addition, extra clamps were used to secure the work pieces to facilitate welding. LeRoy was also provided with reading assistance through a technical tutor and is showing improvement in reading and understanding technical books and charts.

RELATED ACTIVITY

Evelyn is a 27-year-old woman who suffers from rheumatoid arthritis, which impairs the movement of her lower extremities. This necessitates the frequent use of a wheelchair for mobility. She has expressed an interest in your program. She has not been enrolled in school since her graduation from high school at age 17.

Evelyn feels uneasy about her handicap and its limitations when in school. However, she feels that now is the best time to go back to school to receive new training that will help her find employment since her 9-year-old son is in school all day and a new plant is opening soon in her town.

The special education teacher in your postsecondary school has suggested that you talk with Evelyn and set up and conduct a training tryout and performance sampling to see what knowledge and skills Evelyn already has in your occupational area and what modifications may need to be made to your facility, instructional program, and work environment.

In order to help Evelyn determine if she can successfully complete her program you must interview her and devise and conduct several performance samples that contain representative tasks in your occupational area. Complete the following items:

1. Develop a series of questions that you would ask

Evelyn in order to determine what series of performance samples you might wish to try. In addition, list other information you would need to help in formulating an assessment strategy.

2. Develop a performance sample that would be typical of your program to provide data on the functional assets and limitations of a student like Evelyn.

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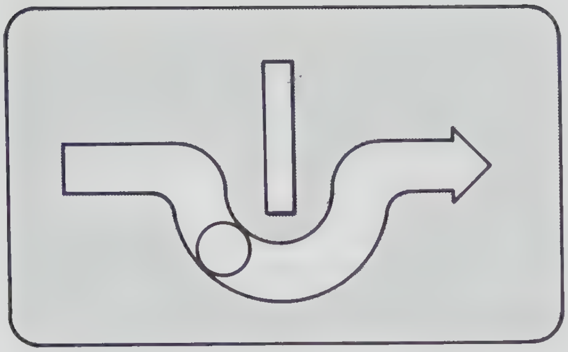


8

Curriculum modification is the tailoring of all the experiences and activities in pursuit of occupational preparation under the direction of a school to meet the unique needs of the individual student. Curriculum modification does not mean lowering or altering program standards.

The basic objective of a program and the standards established for its completion remain constant. The changes made are in the elements of the teaching-learning process, such as classroom management technique, blending teaching techniques to match the learning styles of students, and the use of appropriate instructional materials. The curriculum should be flexible, developed in sequence, competency-based, and individualized.

This module provides the reader with techniques that will help in establishing realistic goals for special needs learners in vocational programs, identifying student learning styles, establishing teaching styles, selecting instructional materials for special needs learners, and modifying existing materials.

OUTLINE

- Rationale for Curriculum Modification
  - Establishing Realistic Goals
  - Establishing a Favorable Learning Environment
    - Student Self-concept
    - Motivating Students
    - Classroom and Laboratory Organization
    - Classroom Management
    - Developing Positive Peer Relationships
    - Safety Considerations
  - Matching Learning and Teaching Styles
    - Identifying Individual Learning Styles
    - Cognitive Style Mapping
    - Learning Style Inventories
    - Analyzing Teaching Style
    - Matching Teaching Techniques with Student Learning Styles
  - Readability Levels
    - Readability Formulas
    - Techniques to Assist Learners with Reading Deficiencies
  - Selecting Instructional Materials for Special Needs Learners
    - Examples of Instructional Materials
    - Computer Software
  - Modifying Existing Instructional Materials
- Summary
- Self Assessment
- Associated Activities
- Case Study
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Establish realistic goals for special needs learners in a vocational program by matching entry and exit skills, multiple exit points, and competencies with student interests, abilities, and limitations.
2. Establish a favorable learning environment in a vocational program, taking into consideration the importance of student self-concept, motivation, classroom management, classroom and laboratory organization, peer relationships, safety considerations, and accessibility.
3. Match the teaching style with the learning styles of the students enrolled in a vocational program.
4. Determine the reading levels of students enrolled in a vocational program and the readability levels of materials used in the curriculum.
5. Select appropriate instructional materials for special needs learners enrolled in a vocational program.
6. Modify existing instructional materials to meet the needs of special needs learners.

CONCEPTS

Basic reading skills - The ability to read words as well as comprehend their meaning.

Curriculum modification - The tailoring of all the experiences and activities encountered in pursuit of occupational preparation under the direction of a school to meet the unique needs of the individual student.

Learning style - Most efficient and effective method of learning for an individual.

Learning style inventories - Instruments that indicate the ways in which individuals learn best, the qualities that are important to people in interacting with others, and the kinds of thinking patterns learners use in solving problems and making decisions.

Modification - A change in facility, equipment, furniture, or tool used in an instructional program in order to eliminate a barrier for a handicapped person.

Readability formula - A procedure used to determine the reading level of instructional material.

MODULE 8
CURRICULUM MODIFICATION FOR SPECIAL NEEDS LEARNERS

RATIONALE FOR CURRICULUM MODIFICATION

Vocational teachers are not expected to lower program standards to successfully integrate special needs students into their classes. If these students are to be employable when they complete the program, they must meet certain proficiency and employability standards. Rather than lowering program standards for these students, vocational teachers need to exercise flexibility in planning and implementing instruction.

The extended time approach allows flexibility when working with special needs learners and gives an opportunity for them to enter a program after prerequisite skills have been mastered to develop necessary competencies in an individualized, self-paced environment, and to exit from the program when a realistic vocational goal has been met. There are multiple exit points (levels at which vocational goals are achieved) in each vocational program, which enable the teacher to match the abilities and proficiencies of special needs students with realistic employment opportunities.

Curriculum modification means tailoring all the experiences and activities in pursuit of occupational preparation under the direction of a school to meet the unique needs of the individual student. Considerations in modifying the vocational curriculum to meet the specific needs of individual learners include establishing realistic goals, establishing a favorable learning environment, matching learning styles with teaching styles, establishing readability levels for materials used in the program, selecting appropriate instructional materials, and modifying existing materials.

Establishing Realistic Goals

One of the important steps in curriculum modification is to make certain that goals established for special needs learners in vocational programs are realistic. An effective method to establish appropriate goals for a specific learner is to have the vocational teacher identify pertinent information about what will be taught in the program, necessary requirements for program completion, multiple exit points (jobs that a learner can prepare for in the vocational program), and entry-level competencies expected by employers for each of the exit points. This information provides direction for curriculum modification and subsequently in developing an individualized plan for the special needs student as well as teaching strategies, and in identifying support evaluation techniques and services that will be necessary for successful completion of the plan.

Peterson and Housley (1982) state that school-based personnel (e.g., counselors, support staff) must be aware of the specific skills that learners need so that they can successfully participate in a particular vocational program. This information should include (a) physical skills, (b) academic skills (reading, math, communication), (c) basic skills, (d) safety proficiencies, (e) employability skills, and (f) learning skills (e.g., study skills, ability to take notes). These authors have outlined the following steps to be used in analyzing a vocational program for student entrance.

1. *Identify local vocational programs* - Potential programs that may be attended by special needs students should be identified. These will include regular vocational programs in secondary or postsecondary schools, programs designed specifically for special needs students, or out-of-school programs (e.g., JTPA programs).

2. *Collect information from teachers on these programs* - Information collected should include (a) entrance criteria, (b) behaviors necessary for successful completion of the program, (c) teaching techniques, and (d) potential curriculum modification. Interviews with individual vocational teachers are the most accurate way of gathering this material.

In whatever way the information is collected the focus must be on minimum skills. Entrance criteria information should be gathered in the areas of physical, educational, and vocational skills. Information should also be collected concerning the teaching style of and materials normally used by the teacher.

3. *Develop an entrance criteria program matrix chart* - Each entry-level skill for a given program will probably apply to a number of vocational programs and/or exit points. A chart could be developed that can relate

each entry-level criterion to all programs to which it applies.

4. *Compile the information into a booklet* - The information gained can be compiled into a small publication that will provide very specific information about each vocational program, which will be useful with parents, students, and other professionals.

These entrance criteria, program descriptions, and potential curriculum modifications will need to be reviewed and updated on a regular basis (p. 150).

Using these guidelines as a model, the following suggestions will help to gather pertinent data. To identify existing vocational programs, contact the local vocational administration. At this point, the vocational teacher must provide specific program information. Most teachers will have a course syllabus on file. Figure 8.1 is an excerpt from a vocational course syllabus in Building Trades I. (Although plumbing is the only subject illustrated in this example, carpentry, masonry, and housewiring are also included in the course.) This can be used to analyze a vocational program and establish realistic goals for special needs learners.

The next step is to identify specific entry-level skills for the vocational program. Although some of these skills may be negotiable, they provide an overview of the competencies necessary for adequate preparation for employment in this area.

This does not mean that special needs learners must be able to demonstrate every entry-level skill at the time they enroll in the vocational program. However, there should be reasonable assurance that they will be able to develop them with assistance from appropriate support personnel and/or supplementary resources.

Some suggested entry-level skills that a student enrolled in the building trades program (shown in Figure 8.1) are:

Suggested Entry Level Skills for Building Trades Program

I. Behavioral Skills
   1. Attend to tasks
   2. Attend to task for 30 minutes
   3. Attend to class/work
   4. Follow through on commands
   5. Be on time
   6. Develop positive attitudes
   7. Show respect for authority
   8. Dress neatly
   9. Wear safety gear
II. Communication Skills
   1. Read or develop alternative strategy to obtain information
   2. Follow 5 step written directions
   3. Read work order
   4. Read blueprints
   5. Read directions on a package of wall paper paste
   6. Read directions on paint cans
   7. Read directions on storm doors
   8. Read directions on garage doors
   9. Read mixing instructions
   10. Read scale drawings and tell dimensions of house
   11. Listen/develop alternative strategy to obtain information
   12. Follow four step oral directions
   13. Communicate on telephone with an unknown person
   14. Write legibly/develop alternative strategy to report information
   15. Write specifications for building
   16. Estimate amounts of building materials required
III. Math Skills
   1. Calculate problems using the basic 4 operations
   2. Add, subtract, multiply and divide fractions with common denominators
   3. Multiply two digit numbers
   4. Calculate square feet and yards
   5. Calculate cubic feet and yards
   6. Calculate board feet
   7. Add, subtract, multiply and divide whole numbers and 2 column numbers
   8. Measure accurately
   9. Read rule to 1/4th of an inch
   10. Read rule to 1/8th of an inch
   11. Tell time
IV. Physical Skills
   1. Possess manual dexterity
   2. Demonstrate eye-hand coordination
   3. Possess a sense of balance when working at heights
   4. Use hand and arm movements effectively
   5. Perform specific motions
   6. Determine approximate sizes by visual inspection
V. Equipment Skills
   1. Identify common hand tools
   2. Identify a hammer
   3. Identify a tape measure
   4. Distinguish between a standard and a Phillips screwdriver
   5. Identify various types of shovels
   6. Identify a hand saw
   7. Identify pliers
   8. Identify nail sets
   9. Identify common power tools
   10. Identify a radial arm saw
   11. Identify a circular saw
   12. Use common power tools
   13. Use a radial arm saw
   14. Use an electric circular saw
   15. Identify materials commonly used
   16. Identify screws
   17. Identify nails
   18. Identify plywood
   19. Identify lumber
   20. Identify bricks
   21. Identify blocks
   22. Identify paint

(Entry Level Skills Criteria, pp. 35-37)

The Entry Level Skills Criteria project resulted from a statewide survey in Missouri in 1984 to develop a single validated entry-level skills list for each vocational program in the state. In developing this project, the existing list of entry-level skills for each vocational area

Figure 8.1

VOCATIONAL COURSE SYLLABUS

DEPARTMENT: VOCATIONAL EDUCATION
COURSE TITLE: BUILDING TRADES I
COURSE NUMBER: 12879
COURSE DESCRIPTION: This course will teach the basics of carpentry, from foundations through roof framing. Other topics covered will include masonry, tools and equipment; plumbing instruction in systems, materials, tools and methods of installation; house wiring instruction in electrical terms, symbols, tools and steps of installation.

I. GENERAL COMPETENCIES – The learner will be able to:

  1. Comprehend information received and apply information in a variety of everyday situations.
  2. Use a variety of information resources to obtain assistance and information.
  3. Know appropriate emergency responses to accidents and demonstrate preventive actions for health/safety hazards.
  4. Demonstrate skills necessary to obtain employment.

II. PERFORMANCE OBJECTIVES:

Items listed below include the objectives and their indicators for this course:

A. Carpentry
  1. The learner will safely utilize and operate all tools and equipment.
    (a) List safety rules for each machine.
    (b) Demonstrate safety of machines and tools.
  2. The student will perform tasks using knowledge of blueprint reading, foundations and basic framing procedures of a residential building.
    (a) Utilize knowledge of signs and symbols.
    (b) Prepare batter boards.
    (c) Identify parts of floor system.
    (d) Identify parts of wall and ceiling systems.
    (e) Identify parts of a roof system.

B. Plumbing
  1. The learner will perform safely the installation of the sewer and supply system of a residential home.
    (a) List safety rules.
    (b) Identify parts of sewer system.
    (c) Identify parts of supply system.

C. Masonry
  1. The learner will perform safely the operation of tools and equipment used in the basic skills of masonry.
    (a) List safety rules.
    (b) Demonstrate skills of handling trowel.
    (c) Demonstrate ability to lay brick to the line.

D. House Wiring
  1. The student will safely utilize and operate all tools and equipment according to the proper electrical code.
    (a) List safety rules.
    (b) Demonstrate safe wiring practices.

COURSE OUTLINE

I. Carpentry
  A. Safety and Orientation
  B. Framing
  C. Blueprints
  D. Foundations
  E. Framing
  F. Interior and Exterior
  G. Cabinetmaking and Furniture

Figure 8.1 continued

II. Plumbing
  A. Safety and Orientation
  B. Plumbing Material Identification
  C. Basic Plumbing Techniques
  D. Blueprints
  E. Sewer System
  F. Supply System
  G. Fixtures
  H. Plumbing Maintenance

III. Masonry
  A. Safety and Orientation
  B. Basic Projects with Tools
  C. Foundations
  D. Layout Procedures
  E. Brick Project and Practices
  F. Block Project and Practices

IV. House Wiring
  A. Safety and Orientation
  B. Basic Wiring Procedures
  C. Diagrams
  D. Service Entrance
  E. General Purpose
  F. Individual Circuit

APPLICATION TASKS

A. Plumbing

  1. The learner will complete the tasks of installing the sewer and the supply systems of residential construction.
    (a) Devise a sewer system.
    (b) Devise a supply system.
    (c) Install bathroom fixtures.
    (d) Test systems for leaks.

B. Masonry

  1. The learner will perform activities in laying bricks and blocks in residential masonry.
    (a) Construct a 4" brick wall.
    (b) Construct a corner lead.
    (c) Construct a block wall.
    (d) Construct a block corner.

C. House Wiring

  1. The learner will demonstrate residential wiring practices.
    (a) Prepare wiring diagram.
    (b) Construct service entrance.
    (c) Construct general purpose circuits.
    (d) Construct individual circuits.
    (e) Test electrical systems.

SUGGESTED ACTIVITIES, MATERIALS AND EVALUATION

Suggested Activities

1. Teacher Demonstration
2. Teacher Lecture
3. Student Group Work
4. Live Work
5. Live Work Simulation
6. Individual Instructional Units

Materials

1. Resource Books
2. Lumber
3. Pipe
4. Wire
5. Brick
6. Blocks
7. Slides and Filmstrips
8. Teacher Handouts and Overlays
9. Adopted Text

Evaluation

1. Time and Participation
2. Accuracy
3. Tests
4. Attitude

were sent to randomly selected vocational educators throughout the state. The vocational educators were asked to agree or disagree with entry-level skills as the skills related to their program area, and to select from the general skills list those skills that they felt should be added to the list of entry-level skills. The subcategories used in identifying entry-level skills for this project are listed below:

1. *Behavioral Skills*
    1. Attending tasks
    2. Attitudes
2. *Communication Skills*
    1. Reading
    2. Listening
    3. Writing
    4. Speaking
3. *Mathematics Skills*
    1. All types of calculations
    2. All types of measurement including time
4. *Physical Skills*
    1. Physical strength
    2. Endurance
    3. Manual dexterity
    4. Performing specified motions
    5. Work environment
5. *Equipment Skills*
    1. Identify hand tools
    2. Use hand tools
    3. Identify power tools
    4. Use power tools
    5. Identify materials commonly used in the training field
    6. Use materials
    7. Identify equipment
    8. Use equipment

(p. 1000)

This project encouraged instructors to keep several important points in mind in identifying entry-level skills for locally specified programs:

1. Include only those skills *necessary* to learn the program skills;
2. Emphasize essential skills rather than ones that would be "nice to know";
3. Skills should be negotiable and flexible;
4. Skills which are taught by or should be taught by the vocational instructor should *not* be considered an entry-level skill.

(p. 7)

In addition to the special needs learner's knowledge of and ability to perform entry-level skills, he or she must also have exit skills. The following list contains suggested exit skills for a student enrolled in the building trades program (shown in Figure 8.1). These are the specific competencies that the student needs when applying for a job and that employers expect.

Suggested Exit Skills for Building Trades Program

I. Behavioral Skills
- 1. Work effectively with co-workers

II. Communication Skills
- 1. Read and interpret blueprints
- 2. Follow multi-step directions—a minimum of four
- 3. Define platform framing
- 4. Know vocabulary terms of building trades
- 5. State uses of devices such as nails, screws, glue
- 6. Use telephone to order materials
- 7. State uses of paint, varnish and stains
- 8. State space and structural requirements for plumbing fixtures
- 9. State space and structural requirements for heating and air conditioning system
- 10. State use of plumbing fixtures

III. Math Skills
- 1. Calculate safe loads for girders
- 2. Calculate board feet of materials
- 3. Calculate square feet of materials
- 4. Abide by area building codes
- 5. Calculate load requirements on roads
- 6. Prepare bill of materials
- 7. Read a ruler to the 1/16th of an inch
- 8. Calculate measurements of rafters

IV. Physical Skills
- 1. Balance on a 2″ × 4″ above ground
- 2. Nail floor joist
- 3. Nail subflooring
- 4. Nail wall sheathing
- 5. Drive a nail effectively
- 6. Use a ladder safely
- 7. Safely maneuver on skeleton of house

V. Equipment Skills
- 1. Demonstrate safe use of hand tools
- 2. Demonstrate safe use of chisels
- 3. Demonstrate safe use of knives
- 4. Demonstrate safe use of planes
- 5. Demonstrate safe use of power tools
- 6. Demonstrate safe use of drills
- 7. Demonstrate safe use of circular saw
- 8. Demonstrate safe use of router
- 9. Check power hand tools for electrical shorts
- 10. Recognize electrical hazards
- 11. Identify various types of wall and ceiling insulation
- 12. Identify specific characteristics of various types of lumber
- 13. Identify types and grades of plywood
- 14. Identify copper tubing and fittings
- 15. Identify plastic pipes and fittings
- 16. Work off ladders and scaffolds safely
- 17. Use a combination square
- 18. Lay out top and bottom plates and studding
- 19. Lay out the floor joist
- 20. Build headers for windows and door openings
- 21. Cut and install bridging
- 22. Lay subflooring
- 23. Install wall sheathing and ceiling joists
- 24. Apply exterior siding
- 25. Install metal flashing
- 26. Construct built-up girders
- 27. Apply shingles
- 28. Install exterior windows and doors
- 29. Apply roof sheathing
- 30. Install various types of wall and ceiling insulation
- 31. Build stairs
- 32. Build concrete forms for flat work
- 33. Finish concrete
- 34. Lay out interior wall partitions
- 35. Lay out ceiling joists
- 36. Relate PSI, building strength in concrete to building requirements
- 37. Use rafter tables on framing squares to cut rafters
- 38. Cut common rafters
- 39. Install interior doors
- 40. Install baseboard trim
- 41. Install window casings
- 42. Build cornice

43. Paint appropriately using brush and rollers
44. Install cornice boards
45. Install factory-built cabinets and counter tops
46. Sweat copper tubing
47. Install and finish gypsum drywall
48. Identify members of a wood truss
49. Hang wall paper
50. Install internal wiring
51. Install roof and soffit vents
52. Install meter base and main breaker box
53. Install roofing metal flashing and edging
54. Install internal air conditioner ducts
55. Install guttering
56. Install panelling
57. Finish concrete driveways, porches and sidewalks
58. Install heating and air conditioning equipment
59. Lay out roofing building paper
60. Select building site
61. Select building to fit site
62. Install bathtub complete
63. Select proper and appropriate building materials
64. Waterproof foundation
65. Install rough in plumbing drains
66. Install outlets
67. Install plumbing fixtures
68. Install rough in water supply lines
69. Install soffits
70. Install finish hardware
71. Install light fixtures
72. Lay out foundation
73. Install closet shelves
74. Install switches

(*Entry Level Skills Criteria*, pp. 93–96)

Another technique in establishing realistic goals is to identify the *multiple* exit points or job titles for which a person can prepare in a vocational program. Figure 8.2 shows an example of multiple exit points in the area of masonry, which is a part of a building trades program.

After establishing the multiple exit points for a vocational program, the entry-level competencies should be established for these exit points. In this manner, single skill programs could be set up for particular special needs learners so that they only have to master the competencies relative to their chosen exit point rather than having to demonstrate all of the competencies for all the exit points for a vocational program. Figure 8.3 shows an excerpt of the entry-level competencies for the exit points in masonry.

The exit points (under the heading, Possible Exit Points), identified by the DOT Job Titles, are listed across the top. The competencies taught in the vocational progam (under the heading, Task Name) are listed down the left side of the profile. The specific entry-level competencies needed for each job title are identified by an X.

Figure 8.2

MULTIPLE EXIT POINTS OR CAREER OPTIONS IN MASONRY

Area: Building Trades Program (Trade and Industrial Education)

Secondary Exit Points	Dictionary of Occupational Titles (DOT) Number
Cement mason helper	869.687-026
Bricklayer helper	861.687-010
Stone mason helper	869.687-026

Postsecondary Exit Points	Dictionary of Occupational Titles (DOT) Number
Cement mason helper	869.687-026
Bricklayer helper	861.687-010
Stone mason helper	869.687-026
Cement mason	844.369-010
Stone mason	861.381-038
Bricklayer, construction	863.381-018

Once specific tasks have been identified for the established career goal that the learner has selected, they should be documented in the individualized education program (IEP) or individual prescribed program (IPP). These tasks or competencies are then to be taught by the vocational teacher with assistance from support personnel. The methods used to teach these tasks will depend on the student's learning style, pace of learning, and ability to retain content.

A tool that can be used to plan teaching strategies for special needs learners is competency-based guides such as the Vocational-Technical Education Consortium of States (V-TECS) catalogs. Looking at the exit points and associated entry-level tasks in the area of masonry, a part of the building trades program, the V-TECS Masonry Catalog addresses each entry-level task separately. See Figure 8.4 for an example of how a task is listed in the V-TECS Masonry Catalog. Each task page has a performance objective written according to standards specified by workers in the field, the conditions necessary for completing the task (tools, equipment, supplies), and a performance guide that breaks down the task into its component parts. This task page can be used to determine how the task will be taught and when reinforcement or remediation will be necessary. The performance objective will help determine when the task has been mastered.

Using the information described in this section, realistic goals can be developed for special needs learners by comparing learner profile information (e.g., strengths, limitations, academic background,

Figure 8.3

MULTIPLE EXIT POINTS AND ENTRY LEVEL SKILLS—MASONRY

TASK LISTING BY DOT CODE

MASONRY

	POSSIBLE EXIT POINTS — DOT DESCRIPTIONS	Cement Mason Helper	Bricklayer Helper	Stone Mason Helper	Cement Mason	Stone Mason	Bricklayer Construction
	DOT NO.	869.687-026	861.687-010	869.687-026	844.364-010	861.381-038	001.301-010
TASK NO.	**TASK NAME**						
01	Spreading mortar	X	X	X	X	X	X
02	Laying brick to a line		X				X
03	Building a brick corner						X
04	Cutting brick and block		X	X		X	X
05	Determining spacing for standard sized brick						X
06	Laying out courses to sill and cornice height						X
07	Interpreting and using a line modular rule		X	X		X	X
08	Dimensioning and scaling a working drawing						X
09	Identifying names and uses of lines and symbols on a working drawing						X
10	Identifying different views and their uses on a working drawing						X
11	Setting batter boards	X	X		X		X
12	Inspecting grading at building site				X	X	X
13	Finishing grading at building site	X	X	X	X	X	X

vocational background) with the data on vocational program content, entry-level skills for program enrollment, vocational program multiple exit points and associated entry-level requirements. At this point, an individualized plan can be developed for the learner. Support services, instructional materials, instructional strategies, evaluation techniques, and timelines can then be established in order to complete an effective curriculum modification process.

Establishing a Favorable Learning Environment

Several areas should be taken into consideration in order to establish a favorable learning environment that will allow special needs learners to be successful. These areas include (a) student self-concept, (b) motivating students, (c) classroom and laboratory organization, (d) classroom management, (e) developing positive peer relationships, and (f) safety considerations.

Student Self-concept. In order for a student to be successful, he or she must have:

1. an expectation for success;
2. a desire/motivation for success;

Figure 8.4

MASONRY

Duty: Preparing Foundations and Footings

Task: Build Forms for Concrete

6. PERFORMANCE OBJECTIVE

Given necessary equipment, supplies, and building specifications, build a footing. Footing must be constructed according to builder's specifications. (1)

CRITERION-REFERENCED MEASURE

The instructor will provide needed equipment and specifications. Build footings.

PERFORMANCE GUIDE

1. Place two 5/8 inch steel rods horizontally and centered in footing 6 inches on center.
2. Overlap each adjoining piece of rod 15 inches and tie with wire.
3. Place and secure with wire 12 inch by 3/8 inch steel crossbars six feet on center.
4. Elevate rods 4 inches off the ground.
5. Place grade stakes in center of footing to height at which concrete is to be poured.

3. skills necessary to do the task.

The first item, an expectation for success, can be difficult for many special needs learners because of their lack of self-esteem. What learners think and how they perform are determined largely by their self-esteem. Often the self-fulfilling prophecy interferes with their ability to succeed. The self-fulfilling prophecy is a situation where low expectations of learners will influence their performance, and they start acting as expected without using all of their potential.

A direct relationship exists between self-concept and academic achievement. Successful learners have a relatively high opinion of themselves and are optimistic about their future and their ability to meet expected performance standards. They excel in their feelings of worth as positive, contributing individuals. The majority of unsuccessful learners see themselves as inadequate, incapable, and less reliable than their peers.

The following techniques can be used to help boost the self-concept and confidence of special needs learners.

1. Encourage learners to believe in themselves and in their own abilities.
2. Provide a positive, caring, and supportive classroom environment.
3. Remain open and responsive to the feelings and reactions of learners.
4. Examine your expectations of each individual learner (e.g., underestimation may result in the self-fulfilling prophecy, overestimation may result in frustration and hopelessness).
5. Provide *immediate, specific* feedback relative to learner performance and accomplishments.
6. Use verbal praise frequently.
7. Assign activities that you know will result in success.
8. Promote positive interaction with peers in small groups.
9. Interact with learners on a one-on-one basis.
10. Avoid calling on learners when there is a possibility or probability of failure.
11. Display student work and encourage learners to share their accomplishments with others (e.g., parents, siblings, relatives, peers, other teachers, neighbors).
12. Allow learners to make corrections on assignments until the criterion level has been met.

Motivating Students. Motivation combines the needs and desires that move the individual to do something that will satisfy those needs and desires. Motivation is within an individual, although outside variables can affect it. For example, environmental factors can be manipulated to help individuals develop their own motivation (e.g., contracts, rewards). Generally, the more highly motivated the individual is, the greater is the learning that takes place.

A key factor in student motivation is teacher attitude. Once special needs learners realize that a vocational teacher respects their abilities, respects them as individuals, and is willing to make adjustments and modifications in the instructional program to allow for individual differences, insecurity and low motivation will often be replaced by a strong desire to succeed.

Many problems in motivating the special needs learners in regular programs result from their background of failures in school. Their reluctance to put forth enthusiasm and effort often stems from failures in the past. It is to be expected that students who never have had successful experiences in school will be negative or apathetic toward new situations.

Several techniques are effective in motivating special needs learners. The first technique relates to the theory that a taste of success will generally ignite enthusiasm and motivation in a learner. The vocational teacher can promote student motivation by providing classroom and laboratory activities that will lead to success for each student. This objective can often be accomplished through individualized instruction and cooperative working relationships with other professionals involved in planning the educational program of the special needs student.

Special needs learners often exhibit inappropriate behavior as a means of attracting attention. Since they generally have not been successful in gaining attention in a positive manner, they may assume that negative attention is better than no attention at all. The instructor can help eliminate negative behaviors by reinforcing the positive efforts of the student. Positive reinforcement serves not only to prevent inappropriate behavior but also to motivate students to try harder.

Once the instructor identifies the strengths and weaknesses, special needs learners will begin to incorporate this information into individualized planning, and success will result. As an added bonus, the student's self-concept will be positively affected and enthusiasm, determination, and motivation will replace inappropriate behavior.

Performance contracts can also be used to motivate some students. See Figure 8.5 for an example of a performance contract. Support staff and parents both can contribute to planning contracts and reinforcing student efforts.

The basis of a performance contract is an agreement of tasks to be completed. These tasks should be clearly understood and listed so that the student and the teacher can keep track of progress. As each task or

Figure 8.5

PERFORMANCE CONTRACT

Student:______________________________ Date:______________

Program:____

Instructor:____

Unit/Module:____

Approximate Time for Completion:__________________________

Task/Assignment	Criteria	Date Completed	Comments
1. Install 110V lamp controlled by a special switch.			
2. Install two 110V lights in parallel.			
3. Install 110V lights and duplex receptacle in parallel with light controlled by special switch.			
4. Install one 110V light controlled by two 3-way switches.			
5. Install one 110V light controlled by two 3-way switches and one 4-way switch.			
6. Install one 110V light controlled by two 3-way and two 4-way switches.			
7. Install a circuit with four receptacles and one special switch so it controls one receptacle while others remain hot.			
8. Install a light dimming system.			

Remarks: (include pertinent comments and suggestions about handicap from the student and support personnel.)

Date	Student Signature
Date	Instructor Signature
Date	Support Teacher Signature

Results of Performance Contract:

assignment is satisfactorily completed, the instructor dates the performance contract. This serves as a progress report as well as an immediate reinforcement for the student.

Performance contracts include the learner in the planning process and place the one responsibility of completing program requirements on the student. The learning then becomes self-managed and individually paced.

Classroom and Laboratory Organization. The following techniques can be used in the classroom and laboratory toward establishing a favorable learning environment.

1. Be certain that content to be taught is relevant and practical and applied in laboratory activities whenever possible.
2. Have a well-defined classroom operating policy (e.g., specify attendance, policy, course requirements, grading, procedures, classroom and laboratory behavior standards).
3. Establish with learners that they are ultimately responsible for their own behavior, including identified rewards and consequences.
4. Develop a climate characterized by democratic procedures and learner participation in decision-making.
5. Vary grouping arrangements, including large and small group instruction, one-on-one instruction, peer tutoring, and learning centers.
6. Vary instructional techniques, including teacher-directed and student-directed methods.
7. Vary classroom and laboratory reinforcement techniques, including progress charts, points, grades, verbal praise, and eye contact.
8. Teach learners to evaluate their own progress.
9. Assist parents to enhance the self-concept of their children by holding conferences to encourage their active involvement in the learning and reinforcement process.

Classroom Management. Managing classroom behavior is a constant concern of all teachers. Vocational teachers are particularly concerned about student behavior because of the potential danger that exists in laboratory situations. If inappropriate behavior is permitted in the classroom on a regular basis it can seriously affect the learning process. Vocational teachers are often concerned that special needs students will exhibit inappropriate behavior that will be difficult to modify or control.

A good learning environment is created when teachers use techniques that allow students to experience security and confidence. One method of achieving this is to identify realistic objectives for the learners. These learners may be disruptive and behave inappropriately if they feel threatened by a new situation or by one they perceive as impossible to reach. Vocational teachers should identify and sequence realistic objectives for special needs learners so they can experience success on a regular basis. These successful experiences will help students develop a high degree of motivation and self-direction.

Incentives should be available to motivate all learners. A basic incentive that is successful with most learners is to identify and meet their needs within the framework of the instructional program. Communicate on a one-to-one basis with the individual and plan cooperatively with support personnel to determine the specific needs of a handicapped or disadvantaged learner.

General guidelines for positive classroom management include the following:

1. Always be prepared (e.g., have notes and materials ready).
2. Control the learning experience from the beginning.
3. Stress the positive.
4. Be consistent.
5. Learn to judge the attention span of the learners.
6. Determine the appropriate work level that matches the ability of the learner.
7. Keep all learners occupied to help control behavior, especially if individualized activities are used.
8. Break down the task into components that are manageable by the learners.
9. Teach in steps small enough that allow for learner success.
10. Reinforce learners after every correct response (continuous reinforcement) when teaching a new task.
11. Reinforce appropriate behaviors to prevent inappropriate behaviors.
12. Give positive reinforcement immediately after learners respond when a new task is taught.
13. Rather than wait for a perfect performance, reinforce positive attempts or small steps in the right direction in the beginning.
14. Gradually increase the number of correct responses needed before learners are given reinforcement (intermittent reinforcement).
15. Move from outside or extrinsic reinforcements (points, grades) to internal or intrinsic reinforcements (self-satisfaction) whenever possible.
16. Avoid too little reinforcement (deprivation) so that learners do not become frustrated and give up.
17. Avoid too much reinforcement (satisfaction) so

that learners do not become complacent and unchallenged.

18. Always end the learning experience with a positive note.

Vocational teachers can use some specialized techniques to manage behavior in the classroom or laboratory setting. Before a behavior can be modified it must first be identified as inappropriate. Next, the teacher must decide what the target behavior is, then observe the target behavior to see how frequently it occurs and how it affects other learners in the class. Finally, an incentive must be identified to create and reinforce the desired behavior.

The vocational teacher alone can apply the suggested techniques described below or by a cooperative effort with support personnel and other learners.

1. *Time-out:* The time-out technique is frequently used with learners who are aggressive or hostile.

If such negative behavior is occurring more and more frequently, it could mean that the learner is competing with the teacher for the attention of the class. This interferes with the progress of the other students in the class.

In the time-out technique, the learner is removed from the classroom or laboratory to an area in the hall or an isolated area of the classroom or laboratory. The teacher explains that the behavior makes it difficult for other learners to complete their work. The learner must realize that whenever he or she behaves inappropriately, he or she will be removed from the class. It is imperative that the teacher be consistent in enforcing time-out for disruptive behavior.

Once the learner has been removed from the classroom or laboratory, the teacher can have an informal conversation on a one-to-one basis with the learner. This is not a time to reprimand, threaten, or lecture. It is, however, a time to let the student know why the behavior is inappropriate. Once the learner begins to display appropriate behavior, the student may be allowed to join the class again.

By using time-out, the teacher can eliminate the disruptive behavior from the class environment while at the same time, counsel the learner to find out what might have caused the behavior. The one-to-one, teacher-student relationship should help the learner to feel that the teacher cares. This can help to develop a positive self-concept.

2. *Ignore negative behavior:* Learners who behave inappropriately or negatively are often looking for attention. When the teacher responds to this behavior by reprimanding or threatening, they have accomplished the objective of attracting attention both from the teacher and the entire class.

One useful technique to avoid giving learners this attention is to ignore the inappropriate or negative behavior when possible. This technique is most effective if the teacher also reinforces appropriate behavior with compliments and approval. Once this pattern has been established, learners realize that they can gain attention when they behave positively.

3. *Reward appropriate behavior:* Giving attention, praise, and approval when appropriate behavior is displayed can be very effective. In this manner, learners receive positive reinforcement while at the same time improve their self-concept.

Providing learners with activities and experiences that will lead to success in the vocational program can enhance this emphasis on appropriate behavior. As the students begin to feel competent and successful, positive behavior often replaces negative behavior. If the teacher gives attention when the appropriate behavior is displayed, it will usually occur more often.

4. *Recording specific behavior through a progress profile:* If specific negative behaviors occur frequently, the teacher should document the behavior. A progress profile can help identify a pattern of behavior for a specific learner. Then an appropriate technique can be identified to modify the behavior.

The teacher must document only objective statements in this record and not opinions of why the behavior occurred. The information recorded in the progress profile should include specific information about what happened and under what conditions the incident occurred. Information placed in student records should always be signed and dated. Teachers should remember that parents or guardians of the learner have the right to inspect all records concerning the learner and may challenge any information that they disagree with.

Teachers and support personnel can use the profile to review the behavioral records of a particular student and to determine the most effective method of behavior modification. Support personnel, such as special education teachers, are trained in behavior modification and can help the vocational teacher design and implement the most appropriate techniques for modifying negative behaviors. When the behavior modification program has been established in the vocational classroom and/or laboratory, it can be reinforced by the support staff during the time the learner is not in class.

The effects of the behavior modification program should be recorded. By recording the changes in behavior, the vocational teacher and the support personnel can determine whether or not the technique is successful.

Students can learn to record the frequency of their own behavior. In keeping track of a specific behavior, they become more aware of the behavior. A peer can also be selected to keep track of the number of times a behavior occurs within a certain amount of time. Teacher-student conferences should be scheduled regularly to discuss changes in behavior.

5. *Develop student-teacher contracts:* Contracts can be effective in behavior modification. The contract individualizes the tasks or responsibilities according to a learner's specific learning rate.

The conditions of the contract should be clearly understood by the learner. The behavior to be changed and/or tasks to be completed are identified. The terms of the contract are then stated, such as the behavior changes that are expected and/or the responsibilities that the learner is to assume. The specific time allowed for behavior change or for completing the assigned responsibility is stated. Finally, the rewards or privileges are given. These should be granted to the learner upon satisfactory completion of the contract requirements.

An initial conference should be held between the student, the vocational teacher, and any support personnel who work with the student to discuss possible tasks and responsibilities to be included. A second conference is then held to review the contract after it has been developed. The contract is reviewed and evaluated as the student completes the tasks.

6. *Initiate individual conferences:* Conferences provide an opportunity for the vocational teacher to meet with the learner who is displaying inappropriate behavior. No audience will be at this meeting so the learner will probably not be disruptive. At this conference the teacher should explain his or her concern about the learner's unique problems, and that the teacher will not tolerate inappropriate behavior in the classroom or laboratory. The teacher can follow up the conference by maintaining a positive relationship with the learner in class and combining this with positive reinforcement of appropriate behavior.

A systematic approach to creating a favorable learning environment is summarized in the following steps:

1. Identify the nature of the problem that special needs learners have in the classroom or laboratory environment.
   a. Analyze how the classroom is organized for instruction.
   b. Analyze how content is presented to learners.
   c. Analyze how concepts are applied or practiced.
   d. Analyze the classroom management techniques used by the instructor.
   e. Analyze how learner performance is evaluated.
2. Identify the tasks, competencies, or content that special needs learners are having difficulty in mastering.
3. List possible causes of failure (e.g., pace of presenting content in class is too fast, learner needs reinforcement of material presented in class, learner's style of learning does not match the instructor's teaching style).
4. Brainstorm possible methods of classroom management that will facilitate learner success.
5. Develop a plan of action.
6. Implement the plan.
7. Evaluate the plan and identify changes to be made.

Developing Positive Peer Relationships. Vocational teachers can use a variety of techniques to promote peer acceptance of special needs students. For example, the instructor and/or special needs teacher can conduct an informal orientation session for the class before the learners are enrolled. The orientation session should create a general awareness of the nature and needs of a special needs learner to encourage acceptance by the students.

Once a special needs learner enters the class, several techniques may be used to ensure a smooth transition. One technique is peer tutoring (buddy system) in which a special needs learner is paired with one or more fellow classmates for support, aid, or assistance. An advantage of peer tutoring is that it promotes positive interpersonal relationships with classmates in addition to providing a source of remedial aid when necessary.

Grouping arrangements for activities, projects, and laboratory assignments should be flexible to provide special needs students with different interpersonal experiences. Flexible groups give special needs students opportunities to interact with different people in various situations. They also learn to apply appropriate skills and attitudes to training, social, and work-related situations.

In promoting positive peer relationships, Johnson and Johnson (1982) suggest:

1. Ensuring physical proximity between special needs learners and their peers.
2. Structuring cooperative interdependence and encouraging activities that simulate peers to work together.
3. Emphasizing joint rather than individual products whenever feasible.
4. Directly teaching the interpersonal and small group skills needed to build and maintain collaborative relationships with peers (e.g., learners can be helped to learn how to be effective leaders).
5. Giving learners meaningful responsibility for the

well-being and success of their peers.

6. Encouraging the feelings of support, acceptance, concern, and commitment that are part of collaborative situations.
7. Holding learners accountable for fulfilling their obligations and responsibilities to their collaborators and giving them mutual authority over each other.
8. Ensuring that learners experience success in a cooperative group setting.
9. Promoting the appropriate exchange of personal information between learners and their peers—neither joy nor sorrow should be experienced in solitude.
10. On occasion, structuring appropriate interpersonal and intergroup competition among peers.
11. Structuring appropriate individualistic activities on occasion.
12. Encouraging perspective-taking dialogues with diverse peers.
13. Modeling and providing opportunities for social actions and activities.
14. Providing opportunities for learners to participate in decision-making appropriate for their age.
15. Suppressing peer pressures for antisocial conduct.

Safety Considerations. Basic principles of accident prevention are essential to the operation of many vocational programs. Special needs learners can be taught the proper use of machinery, equipment, and tools as effectively as their peers. It is natural to assume that every vocational teacher is concerned with the general safety environment and welfare of all the students enrolled in the program. It is also understandable that because of the lack of preparatory training and exposure to handicapped and disadvantaged students, these teachers are apprehensive about safety and liability considerations.

Special needs learners should receive the same safety instruction and reinforcement that is provided for all students. Each student must learn to recognize potential safety hazards and learn safety procedures that will reduce or eliminate potentially dangerous situations. They need to develop a positive attitude toward safety and learn safety habits essential for maintaining an accident-free environment.

Generally, the same safety precautions and techniques required for other students can be successfully taught to special needs students. It is true that specific modifications will have to be made for some of these learners. For example, additional time for learning may be required before the learner can demonstrate a safety technique. These changes needed to teach appropriate safety procedures to special needs learners should be made according to the individual needs of each student.

No evidence exists to indicate that special needs learners are a greater safety risk than other learners. As an example, employer surveys indicate that handicapped workers have safety records that are as good as, if not better than, those of nonhandicapped workers.

The primary causes of accidents in a laboratory setting result from lack of understanding of safety rules, confusion, and inattentiveness on the part of students. These circumstances can occur with any learner if precautions are not taken before independent work is allowed in the lab area.

A good procedure to follow with all students enrolled in a vocational program is to develop and implement a comprehensive safety training orientation program. This program should include general information on safety rules and practices, protective equipment, proper use of tools and equipment, and proper operation of machinery in the laboratory setting. As each learner demonstrates appropriate safety habits when using equipment and machinery, a safety profile can be developed. Using this method, vocational teachers can be certain that students are able to operate machinery and equipment safely before they are allowed to work independently in the laboratory.

Support staff such as special education personnel, disadvantaged coordinators, and resource room teachers can help special needs learners in safety orientation instruction. The rules covered in the vocational program can be reinforced and reviewed when the learners are with support personnel. Cooperative planning between vocational teachers and support staff will help these learners successfully demonstrate appropriate safety habits.

Developing a Student Safety Profile. The student safety profile is an organized method of documenting student progress in the safety orientation of an instructional program. The safety profile shown in Figure 8.6 is designed for a machine shop program. It lists components commonly found in a comprehensive safety orientation program. The form must be altered for other instructional programs, particularly in the area of tools and equipment.

The form is arranged by specific objectives of the orientation program and provides a method of documenting when a learner has accomplished each of these objectives. In addition, specific behaviors involved in accomplishing each major objective are listed and space is provided for documenting the completion of each.

Another approach to assuring a safe working envi-

Figure 8.6

STUDENT SAFETY PROFILE

General Laboratory

Student: ______________________ Date: ____

Trade and Industrial Program: ______________

Instructor: ______________________

Date of Entry: ______________________

Date of Safety Orientation: ______________

Date Student Completes Specific Objectives of Safety Orientation: ______________

Specific Objectives	Date Accomplished
Develops awareness of hazard and becomes more safety conscious	
Develops a serious attitude toward safety	
Prepares for safety before entering work area	
Prepares for safety at work stations	
Understands color coding	
Practices safety procedures	
Prepares for safety on leaving shop	

	Date Competence Demonstrated
Develops awareness of hazards and becomes more safety conscious. Successfully responds to the following:	
1. Why provide safety for yourself and others?	
2. How does shop safety help production?	
3. What laws and agencies regulate shop safety?	
4. What are the causes of shop accidents?	
Develops a serious attitude toward safety	
1. Gives serious thought to work safety	
2. Remains alert in the shop area	
3. Works carefully	
4. Remains calm and holds temper	
5. Focuses attention on what is being done	
6. Assumes responsibility for own safety and safety of others	
Prepares for safety before entering shop	
1. What are the characteristics of a training program?	
a. Determines what tools, machines, and materials are required	
b. Determines what hazards are involved	
c. Determines what skills are needed	
2. What clothing and safety equipment to wear?	
a. Recognizes types of clothing suitable for shop area	
b. Recognizes types of foot and leg covering	
c. Recognizes types of head covering	
d. Recognizes types of eye and face protection	
e. Recognizes types of hearing protection	
f. Recognizes types of hand and arm protection	
g. Recognizes types of lung and breathing protection	

Figure 8.6 continued

	Date Competence Demonstrated
Prepares for safety on entering the shop	
1. What safety provision to locate?	
a. Locates exits	
b. Locates emergency fire equipment	
c. Locates emergency aids	
d. Locates main power disconnect areas	
e. Locates safety zones and lanes	
2. What potential hazards to keep in mind?	
a. Identifies flammable materials	
b. Identifies mobile equipment	
c. Identifies activities of others	
Prepares for safety at work station	
1. Obtaining tools and materials	
a. Remembers where tool was obtained	
b. Follows established procedures for obtaining tools	
c. Checks condition of tool upon receipt	
d. Uses care in handling tools	
2. What safety precautions to observe?	
a. Checks for the condition of floor openings and storage areas	
b. Checks for proper lighting	
c. Checks for proper ventilation	
d. Checks for caution areas and protective signs	
e. Checks for guardrails	
3. What power is available?	
a. Uses electric power safely	
b. Uses air power safely	
c. Uses hydraulic power safely	
4. What solvents and chemicals are present?	
a. Checks the parts cleaning area	
b. Checks the dispensing containers	

	Date Competence Demonstrated
Practicing shop safety skills	
1. Recognizes how to prevent bodily injuries	
a. Understands how to prevent slipping or falling	
b. Understands how to avoid injuries from lifting	
c. Understands how to avoid crushing injuries	
d. Understands how to avoid hand and arm injuries	
2. Develops tool and machine safety skills	
a. Demonstrates hand tool safety skills	
b. Demonstrates power tool safety skills on the following machines:	
(1) Milling machines	
(2) Lathes	
(3) Shapers	
(4) Drill presses	
(5) Power hacksaws	
(6) Band saws	
(7) Electrical discharge machines	
Understands color coding	
1. Recognizes safety color codes for shop machines and equipment	
Prepares to leave the school shop	
1. Stores tools, machines and materials	
a. Stores hand and portable power tools	
b. Secures stationary power tools	
c. Stores usable materials and suppliers	
2. Disposes of waste materials	
a. Disposes of scrap metal, filings and chips	
b. Disposes of hot metal	
c. Disposes of waste liquids	
d. Disposes of sawdust and absorbent compounds	
3. Cleans the workbench and floor	
4. Stores safety equipment	
5. Cleans hands and other parts of body	
6. Performs final check of shop area	

ronment in the laboratory is to develop a brief safety checklist. An instructor can check the crucial areas of safety performance as the learner demonstrates appropriate safety techniques. See Figure 8.7 for an example of a safety checklist.

Safety checklists can be used in addition to the general laboratory safety demonstration profile or as a separate method of evaluating a student's ability to work safely in the laboratory.

Safety Considerations for Special Needs Students. To ensure a safe and accessible environment for special needs students, specific modifications may have to be made to facilities and equipment. These modifications should be made according to the needs of a specific learner. Further details about modifying equipment and facilities for handicapped students are found in Module 7.

Matching Learning and Teaching Styles

Learning style refers to an individual's most efficient and effective method of learning. It includes how an individual works on a task and incorporates both the procedures and behaviors involved. Individuals use a variety of techniques when taking in information, interpreting the content, and drawing conclusions about what they have learned. Each individual's preference for learning should be matched with an appropriate instructional format.

Dunn and Dunn (1979) have identified the following elements of learning styles:

1. Environmental Elements:
    a. Sound (can individual "Block Out" sounds or must have absolute silence; needs to have background noise-radio, TV)
    b. Light (learns better in soft light or becomes drowsy unless illumination is bright and thus stimulating)
    c. Temperature (cool environment or warm environment—individuals will always describe temperature in terms of their own personal reactions to it)
    d. Classroom design (traditional-desks, hard chairs; open classroom concept, carpeting, room to lounge)
2. Emotional Elements:
    a. Motivation (internal versus external)
    b. Persistence
    c. Responsibility level
    d. Need for structure
3. Sociological Elements:
    a. Working alone (distracted by the presence, movement, or sounds of others)

Figure 8.7

SAFETY CHECKLIST

Student: ______________________ Instructor: ______________________

Program: ______________________

Criterion: ____

____

Safety Area	Date	Instructor Initials
1. Fire Extinguishers		
2. Emergency Exit Charts		
3. Emergency Exit Procedures		
4. Emergency Electrical Circuit Breakers		
5. General Safety Rules		
6. Hand Tools		
7. Engine Lathe		
8. Turret Lathe		
9. Vertical Milling Machine		
10. Horizontal Milling Machine		
11. Drill Press		
12. Radial Drill Press		
13. Horizontal Band Saw		
14. Vertical Band Saw		
15. Pedestal Grinder		
16. Surface Grinder		
17. Jig Bone Machine		
18. Heat Treating Equipment		

Comments:

____
Instructor Signature

b. Working with peers (circles of knowledge team learnings, brainstorming, peer tutoring)
c. Working with adults (discussions, lectures, teacher-oriented studies)
d. Combination of the above

4. Physical Elements:
a. Perceptual strengths (auditory, visual, tactual/kinesthetic, a blend)
b. Intake (a need to eat, drink, nibble, chew, smoke when studying, concentrating or trying to internalize)
c. Time of the day (we all have a peak learning time of the day, usually closely associated with the time of day when your energy level is at a peak)
d. Need for mobility (ability to remain stationary for longer or shorter periods of time. We often mislabel people "hyperactive" when they are light sensitive or require periodic movement)

Five specific subareas of learning that are identified in the Learning Styles Inventory (Babich, Burdine, Albright, and Randol) are:

1. *Auditory Language:* The way a student hears words (processing spoken words).
2. *Visual Language:* The way a student sees words (processing written language).
3. *Auditory Numerical:* The way a student hears numbers (processing spoken numerical values).
4. *Visual Numerical:* The way a student sees numbers (processing written numerical values).
5. *Auditory-Visual-Kinesthetic:* The way a student learns by doing/involvement (emphasizing the experiencing/manipulative learning style, almost always accompanied by either auditory or visual stimuli, or a combination of both).

Individual differences in the area of work include:

1. *Group Learner* - A student who likes to work with at least one other person when there is important work to be done.
2. *Individual Learner* - A student who works and thinks best alone. This student is usually a self-starter and frequently finds working with other students distracting.

Individual Expressiveness areas include:

1. *Oral Expression* - A student who prefers to say what he/she knows. Usually, answers or explanations are better given orally; however, some students may indicate this preference simply because they are too lazy to write things down.
2. *Written Expressive* - A student who prefers to write down answers or explanations. Students who exhibit a reflective cognitive learning style may prefer this method.

West (1983) states that there are three major factors in learning styles:

1. Sensory Factors

a. Visual Learner: Visual learners best assimilate what is taught when they are provided information through visual channels. For example, the student may need to work from written assignments, diagrams and printed materials, look at models, use computers, or watch films and filmstrips.

b. Auditory Learner: The auditory learner acquires information through auditory channels. Some effective methods of instruction for this student may include the use of verbal directions, presentations, recordings, television, films, filmstrips and discussion.

c. Multi-Sensory Learners: Multi-sensory learners make use of all of their senses in the learning process. Experiments, hands-on projects, models and discussions are effective ways for the multi-sensory learner to acquire information.

2. Human Interaction

a. Independent Learners: These learners work better with limited contact from teachers and peers when learning. Listening to a tape, reading a book, or working on an activity by themselves is their preferred learning style.

b. Dependent Learners: Students who prefer a great deal of teacher contact and peer interaction are dependent learners. Projects that can be done with a small group or filmstrips viewed with one or more students, work best with the dependent learner.

c. Passive Learners: Some learners may prefer quiet, less involved instruction. They may like reading quietly or writing a report.

d. Active Learners: Students who are more outgoing may work better if involved in less sedentary, more physically active instruction. They may prefer role playing, making displays and assembly/disassembly tasks.

3. Timing

a. Slower Paced Learners: Slower paced learners will need more time to complete an assignment. They may learn as well and as much as other students, but progress at a slower pace. Time limits may be set for these students to help them structure their work.

b. Faster Paced Learners: Some students quickly grasp information and complete assignments. They may need frequent and/or varied activities. Quality of completed work should be checked with fast paced learners.

c. Small Amount: Some students may need to have work assignments broken into small amounts. They tend to find large amounts of work, presented at one time, overwhelming. Types of assignments that teachers can give these learners are one or two pages of work, an activity that lasts one period or 2 or 3 steps from a longer assignment.

d. Large Amount: These learners can receive longer lessons involving several steps. They may even prefer the challenge of complex activities and assignments.

(p. 2)

A comparison of the characteristics of visual, auditory, and kinesthetic learners is shown in Figure 8.8.

Identifying Individual Learning Styles. One of the keys to successful educational planning and instruction for special needs students is to build on their abilities and strengths rather than focusing on their limitations and weaknesses. This includes selecting the teaching strategies that will be used to introduce, reinforce, and review program material.

There are several methods to identify the positive learning style of a learner. One method is informal observation. By designing a series of activities for the student to complete, the vocational instructor and/or planning team can watch the way in which the individual negotiates the task. Some students, for example, will perform better from verbal instructions while

Figure 8.8

COMPARISON OF LEARNING STYLE CHARACTERISTICS

Area Observed	Visual	Auditory	Kinesthetic
Learning Style	Learns by seeing; watching demonstrations	Learns through verbal instructions from others or self	Learns by doing; direct involvement
Reading	Likes description; sometimes stops reading to stare into space and imagine scene; intense concentration	Enjoys dialogue, plays, avoids lengthy description; unaware of illustrations; moves lips or subvocalizes	Prefers stories where action occurs early; fidgets when reading, handling books; not an avid reader
Spelling	Recognizes words by sight; relies on configuration of words	Uses a phonics approach; has auditory word attack skills	Often is a poor speller; writes words to determine if they ''feel'' right
Handwriting	Tends to be good, particularly when young; spacing and size are good; appearance is important	Has more difficulty learning in initial stages; tends to write lightly; says strokes when writing	Good initially, deteriorates when space becomes smaller; pushes harder on writing instrument
Memory	Remembers faces, forgets names; writes things down, takes notes	Remembers names, forgets faces; remembers by auditory repetition	Remembers best what was done, not what was seen or talked about
Imagery	Vivid imagination; thinks in pictures, visualizes in detail	Subvocalizes, thinks in sounds; details less important	Imagery not important; images that do occur are accompanied by movement
Distractibility	Generally unaware of sounds; distracted by visual disorder or movement	Easily distracted by sounds	Not attentive to visual, auditory presentation; seems distractible
Problem Solving	Deliberate; plans in advance; organizes thoughts by writing them; lists problems	Talks problems out, tries solutions verbally, subvocally; talks self through problem	Attacks problems physically; impulsive; often selects solutions involving greatest activity
Response to Periods of Inactivity	Stares; doodles; finds something to watch	Hums; talks to self or to others	Fidgets; finds reasons to move; holds up hand
Response to New Situations	Looks around; examines structure	Talks about situation pros and cons, what to do	Tries things out; touches; feels; manipulates
Emotionally	Somewhat repressed; stares when angry; cries easily, beams when happy; facial expression is a good index of emotion	Shouts with joy or anger; blows up verbally but soon calms down; expresses emotion verbally and through changes in tone, volume, pitch of voice	Jumps for joy; hugs, tugs, and pulls when happy; stamps, jumps, and pounds when angry, stomps off; general body tone is a good index of emotion
Communication	Quiet; does not talk at length; becomes impatient when extensive listening is required; may use words clumsily; describes without embellishment; uses words such as see, look, etc.	Enjoys listening but cannot wait to talk; descriptions are long but repetitive; likes hearing self and others talk; uses words such as listen, hear, etc.	Gestures when speaking; does not listen well; stands close when speaking or listening; quickly loses interest in detailed verbal discourse; uses words such as get, take, etc.
General Appearance	Neat, meticulous, likes order; may choose not to vary appearance	Matching clothes not so important, can explain choices of clothes	Neat but soon becomes wrinkled through activity

(Barbe, Swassing and Milone)

others will learn more effectively while doing.

Another source of information concerning student learning style is other teachers who have worked with the learner. Special education teachers, resource room teachers, support personnel, paraprofessionals, and other vocational education teachers can share ideas and experiences regarding successful teaching techniques and aids. This would prevent having to "reinvent the wheel" and would help assure successful experience for the student.

The planning team should not overlook the possibility of obtaining helpful information concerning preferred learning style from special needs students themselves. They can describe their likes and dislikes about various learning situations and learning modes. Parents of these students can offer valuable insight into behaviors and learning characteristics exhibited in the home environment. Peers who have worked with these students can also volunteer suggestions that will help in planning effective teaching strategies.

Personality preference inventories or reading interest inventories can also provide hints for an instructor about preferences such as whether or not the student likes to work alone, in a group, read or not read. Formal test results often contain data that translates into information helpful in identifying a major as opposed to a minor learning style. A student's vocabulary strengths usually translate into verbal skills, which would suggest a good possibility for an auditory learning style. Observation data would either confirm or negate the possibility.

A learning style inventory is a formal strategy used to ask a student how they feel they best learn. It is a direct attempt to identify the instructional strategies that access the best student response to the learning environment (West, p. 1). Specific information relative to learning styles inventory is presented in another section of this module.

In analyzing an individual's learning style(s) the following information should be collected:

1. the time of day when the learner is most alert (peak learning time);
2. the environment where the student is most comfortable when learning (e.g., classroom, laboratory, worksite);
3. the perceptual strengths and weaknesses of the learner;
4. the personality style of the learner (e.g., an outgoing or an introverted personality) and the effect on the individual's learning pattern;
5. how much pressure can the individual tolerate while learning (e.g., does the learner work better under pressure or in a pressure-free situation);
6. the type of task the learner prefers (e.g., written assignment, hands-on activity);
7. the attention span of the student (e.g., distractible, attentive);
8. the type of learning environment the individual prefers (e.g., formal, casual);
9. auditory aids or materials that help the individual to learn (e.g., verbal directions, lectures, cassettes);
10. audiovisual aids or materials that help the individual to learn (e.g., filmstrips, videotapes, films);
11. printed aids or materials that help the individual to learn (e.g., textbooks, workbooks, handouts, checksheets);
12. psychomotor activities that help the individual to learn (e.g., laboratory activities, modeling activities);
13. visual aids or materials that help the individual to learn (e.g., charts, diagrams, illustrations);
14. the amount of formality the individual feels most comfortable with in a learning situation;
15. the amount of structure the individual feels most comfortable with in a learning situation (e.g., highly structured, flexible);
16. the grouping pattern that the individual feels most comfortable with in a learning situation (e.g., working alone, in a team arrangement, in a small group, or in a large group);
17. the physical conditions that provide for the best learning environment for the individual (e.g., lighting, noise level, ventilation);
18. the amount and type of reinforcement an individual requires during the learning process (e.g., attention, praise, tokens);
19. the attention span of the learner;
20. the response method preferred by the student during the learning process (e.g., oral, written, typed, taped); and
21. the pace or rate that the individual feels most comfortable with during the learning process (e.g., individualized, accelerated).

Cognitive Style Mapping. Many learners have more than one primary or major learning style. In addition to a primary style, a learner can have more than one secondary or minor learning style which can still be effective. Developing a road map of the learning styles of a student is an excellent method to use before deciding which teaching strategies will be applied in the instructional process. Sometimes called *cognitive style mapping*, this process can create a favorable learning environment by suggesting appropriate instructional techniques to the vocational instructor and support staff (Knaak, 1984). This prescriptive approach to teaching should be a team effort, incorporating the assistance and input of the learners as well as teachers who will be working with them.

The theory of cognitive style mapping maintains that when information is introduced according to a technique that meets the needs of a particular learner, the learner should receive the information, interpret and comprehend the meaning, come to a conclusion, and react in some manner.

The way in which learners become aware of and informed about things that are happening around them, which is called their cognitive learning style, can be analyzed in several ways. The process usually involves three steps. The first step, *mathematical mapping*, involves testing the student. The test results are analyzed and used to map out student learning styles. The second step, *empirical mapping,* involves a combination of observation and counseling by school personnel in order to validate the map developed as a result of the testing phase. At this point changes can be made in the mapping strategy. The final phase, *prescription writing*, uses information gathered in the first two steps to prescribe appropriate strategies and techniques that parallel the specific strengths and limitations of the learner.

Once a map has been established for a student, the information should be used to select teaching strategies that will reflect the learner's abilities and strengths. The practice of cognitive style mapping can contribute to educational planning and implementation by analyzing the direction and characteristics of the student's learning style as well as identifying ways in which a special needs learner can best master learning activities and vocational tasks.

Learning Style Inventories. Learning style inventories are instruments that indicate the ways in which individuals learn best, the qualities important to people in interacting with others, and the kinds of thinking patterns learners use to solve problems and make decisions. They do not show how much individuals know or how intelligent they are. There are no right or wrong answers to the questions. Learners respond to each item exactly the way they feel about it. Figure 8.9 shows a partial listing of the items in the C.I.T.E. Learning Styles Instrument (Babich, Burdine, Albright, and Randol). Both the instrument and the scoring sheet (Figure 8.10) are provided to show the reader how the information is obtained and scored. This instrument can be used to develop a learning style profile for individual students.

Analyzing Teaching Style. In order to identify appropriate teaching strategies to meet the needs of handicapped and disadvantaged students, instructors must analyze the teaching style or styles they use most frequently. They should then match their teaching styles with the learning styles of the student.

Evidence exists that teachers tend to teach students in a style that matches the individual teacher's learning style. This can be very frustrating for those learners who do not have the same learning style as the teacher.

In analyzing your teaching style or styles, the following information should be taken into consideration:

1. your educational philosophy;
2. the way you design and organize your classroom and laboratory;
3. the type of teaching environment you reinforce in your program (e.g., rigid, flexible);
4. the way that you group students (e.g., large groups, small groups, peer teams, flexible grouping, grouping by ability);
5. the environment in which you feel most comfortable when teaching (e.g., classroom, laboratory, job site);
6. the amount and frequency of auditory devices used in your program (e.g., lectures, verbal directions, cassettes);
7. the amount and frequency of visual aids used in your program (e.g., charts, diagrams, illustrations);
8. the amount and frequency of audiovisual aids used in your program (e.g., filmstrips, videotapes, films);
9. the amount and frequency of printed materials used in your program (e.g., workbooks, textbooks, handouts);
10. the amount and frequency of psychomotor activities used in your program (e.g., demonstrations, observations, laboratory activities);
11. the amount of direction and supervision provided to learners;
12. the amount of learner interaction allowed or encouraged in the instructional process;
13. the specific working conditions that are important during the instructional process (e.g., lighting, noise level, ventilation);
14. the level of formality you feel most comfortable with during the instructional process (e.g., formal, casual);
15. the level of structure you feel most comfortable with during the instructional process (e.g., highly structured, flexible);
16. the level of stress for learners that you incorporate into the instructional process;
17. the types and intensity of learner reinforcement

Figure 8.9

C.I.T.E. LEARNING STYLES INSTRUMENT

	Most Like Me			Least Like Me
1. When I make things for my studies, I remember what I have learned better.	4	3	2	1
2. Written assignments are easy for me to do.	4	3	2	1
3. I learn better if someone reads a book to me than if I read silently to myself.	4	3	2	1
4. I learn best when I study alone.	4	3	2	1
5. Having assignment directions written on the board makes them easier to understand.	4	3	2	1
6. It's harder for me to do a written assignment than an oral one.	4	3	2	1
7. When I do math problems in my head, I say the numbers to myself.	4	3	2	1
8. If I need help in the subject, I will ask a classmate for help.	4	3	2	1
9. I understand a math problem that is written down better than one I hear.	4	3	2	1
10. I don't mind doing written assignments.	4	3	2	1
11. I remember things I hear better than I read.	4	3	2	1
12. I remember more of what I learn if I learn it when I am alone.	4	3	2	1
13. I would rather read a story than listen to it read.	4	3	2	1
14. I feel like I talk smarter than I write.	4	3	2	1
15. If someone tells me three numbers to add I can usually get the right answer without writing them down.	4	3	2	1
16. I like to work in a group because I learn from the others in my group.	4	3	2	1
17. Written math problems are easier for me to do than oral ones.	4	3	2	1
18. Writing a spelling word several times helps me remember it better.	4	3	2	1
19. I find it easier to remember what I have heard than what I have read.	4	3	2	1
20. It is more fun to learn with classmates at first, but it is hard to study with them.	4	3	2	1
21. I like written directions better than spoken ones.	4	3	2	1
22. If homework were oral, I would do it all.	4	3	2	1
23. When I hear a phone number, I can remember it without writing it down.	4	3	2	1
24. I get more work done when I work with someone.	4	3	2	1
25. Seeing a number makes more sense to me than hearing a number.	4	3	2	1
26. I like to do things like simple repairs or crafts with my hands.	4	3	2	1
27. The things I write on paper sound better than when I say them.	4	3	2	1
28. I study best when no one is around to talk or listen to.	4	3	2	1
29. I would rather read things in a book than have the teacher tell me about them.	4	3	2	1
30. Speaking is a better way than writing if you want someone to understand what you really mean.	4	3	2	1
31. When I have a written math problem to do, I say it to myself to understand it better.	4	3	2	1
32. I can learn more about a subject if I am with a small group of students.	4	3	2	1
33. Seeing the price of something written down is easier for me to understand than having someone tell me the price.	4	3	2	1
34. I like to make things with my hands.	4	3	2	1
35. I like tests that call for sentence completion or written answers.	4	3	2	1
36. I understand more from a class discussion, than from reading about a subject.	4	3	2	1
37. I remember the spelling of a word better if I see it written down than if someone spells it out loud.	4	3	2	1
38. Spelling and grammar rules make it hard for me to say what I want to in writing.	4	3	2	1
39. It makes it easier when I say the numbers of a problem to myself as I work it out.	4	3	2	1
40. I like to study with other people.	4	3	2	1
41. When the teachers say a number, I really don't understand it until I see it written down.	4	3	2	1
42. I understand what I have learned better when I am involved in making something for the subject.	4	3	2	1
43. Sometimes I say dumb things, but writing gives me time to correct myself.	4	3	2	1
44. I do well on tests if they are about things I hear in class.	4	3	2	1
45. I can't think as well when I work with someone else as when I work alone.	4	3	2	1

Figure 8.10

C.I.T.E. LEARNING STYLES INSTRUMENT

SCORE SHEET

VISUAL LANGUAGE
5 --- ____________
13 --- ____________
21 --- ____________
29 --- ____________
37 --- ____________
Total __________ × 2 = ________ (Score)

VISUAL NUMERICAL
9 --- ____________
17 --- ____________
25 --- ____________
33 --- ____________
41 --- ____________
Total __________ × 2 = ________ (Score)

AUDITORY LANGUAGE
3 --- ____________
11 --- ____________
19 --- ____________
36 --- ____________
44 --- ____________
Total __________ × 2 = ________ (Score)

AUDITORY NUMERICAL
7 --- ____________
15 --- ____________
23 --- ____________
31 --- ____________
39 --- ____________
Total __________ × 2 = ________ (Score)

KINESTHETIC-TACTILE
1 --- ____________
18 --- ____________
26 --- ____________
34 --- ____________
42 --- ____________
Total __________ × 2 = ________ (Score)

SOCIAL-INDIVIDUAL
4 --- ____________
12 --- ____________
20 --- ____________
28 --- ____________
45 --- ____________
Total __________ × 2 = ________ (Score)

SOCIAL-GROUP
8 --- ____________
16 --- ____________
24 --- ____________
32 --- ____________
40 --- ____________
Total __________ × 2 = ________ (Score)

EXPRESSIVENESS-ORAL
6 --- ____________
14 --- ____________
22 --- ____________
30 --- ____________
38 --- ____________
Total __________ × 2 = ________ (Score)

EXPRESSIVENESS-WRITTEN
2 --- ____________
10 --- ____________
27 --- ____________
35 --- ____________
43 --- ____________
Total __________ × 2 = ________ (Score)

Score: 33 - 40 = MAJOR LEARNING STYLE
20 - 32 = MINOR LEARNING STYLE
5 - 20 = NEGLIGIBLE USE

that you incorporate into the instructional process (e.g., praise, attention, reinforcement); and

18. the amount of attention paid to the attention span of learners in the program.

Another informal instrument is the Teacher Learning Style Inventory (Fritz and Kurth) shown in Figure 8.11. This inventory allows teachers to assess (a) their own learning style, (b) their teaching style, and (c) the learning style or styles of individual learners. An analysis can then be made concerning how teachers learn and the teaching style or styles they generally use in their classroom. This information should then be compared to the expressed learning style or styles of the student. This contrast should help teachers select and use appropriate instructional technology to meet the learning needs of students in their program.

Survey I should be completed by the vocational teacher. Survey II should be completed by learners in the program, but may also be filled out by the teacher to contrast with the student response. Survey III should be completed by individual learners in the program.

Matching Teaching Techniques with Student Learning Styles. Once teachers have analyzed their own teaching and the preferred learning styles of their students, they must plan appropriate teaching techniques in their instructional program. Kok, Jernigan, and Hull (1978) suggested methods of teaching through a variety of learning channels as follows:

Figure 8.11

SURVEY I—TEACHER LEARNING STYLE INVENTORY (A)

This inventory will provide information relative to the strong learning style(s) of the teacher:

	Usually	Sometimes	Rarely
1. I communicate with friends and colleagues by telephone rather than by writing messages to them.	☐	☐	☐
2. After I write a letter, I ask someone to read it aloud to me so that I know how it sounds.	☐	☐	☐
3. People say I speak more understandably than I write.	☐	☐	☐
4. I quote statistical data to others in order to prove my point in an argument.	☐	☐	☐
5. When taking courses in mathematics, I find it easy to "talk in formulas" with my classmates and teachers.	☐	☐	☐
6. I can remember a telephone number once I have heard it.	☐	☐	☐
7. I prefer classes which rely heavily on textbooks for information.	☐	☐	☐
8. I score high on achievement tests which depend upon reading comprehension.	☐	☐	☐
9. I prefer to read a newspaper myself than have someone read it aloud to me.	☐	☐	☐
10. I keep accurate written records in my checkbook.	☐	☐	☐
11. When I am in a group of people trying to solve a written mathematical problem, I am among the first to reach the correct solution.	☐	☐	☐
12. When I go shopping, I read the price of each item and keep a running total in my head.	☐	☐	☐
13. The tone or inflection of a speaker's voice gives additional meaning to his words.	☐	☐	☐
14. I can recognize who is on the phone just by listening to the voice a few moments.	☐	☐	☐
15. I can remember music well enough to recognize a "tune" the next time I hear it.	☐	☐	☐
16. I choose clothes for the way they look on me.	☐	☐	☐
17. I enjoy looking at art work.	☐	☐	☐
18. A story is easier to understand in a movie than in a book.	☐	☐	☐

SURVEY II—TEACHING STYLE EVALUATION

This inventory will provide information relative to the teaching strategies used most often by a specific teacher. The students in the class should fill this out. Teachers can also fill out one of these survey forms and then match their perception of the teaching techniques they use with the response of students in the program.

Directions to the Student: Please take a few minutes to evaluate my teaching methods. I am interested in making sure I am using enough variety of teaching styles which work for you. It will be a big help to me if you carefully evaluate the following methods, think about which ones you feel that I use fairly often, and check how often I use each. Thank you.

	Usually	Sometimes	Rarely
1. Discussion of material	☐	☐	☐
2. Lecture	☐	☐	☐
3. Cassette tapes	☐	☐	☐
4. Material presented orally (Lecture)	☐	☐	☐
5. Small group discussion material	☐	☐	☐
6. Cassette tapes covering math problems	☐	☐	☐
7. Using textbooks	☐	☐	☐
8. Writing on blackboard	☐	☐	☐
9. Using workbooks, handouts	☐	☐	☐
10. Math presented on blackboard or overlays	☐	☐	☐
11. Using math textbooks	☐	☐	☐
12. Giving out work sheets, handouts	☐	☐	☐
13. Using voice changes (tone, phrasing)	☐	☐	☐
14. Using multi-media (movies, slide/tape shows)	☐	☐	☐
15. Using realistic examples of people, situations, telling short stories	☐	☐	☐
16. Using graphs, charts	☐	☐	☐
17. Showing photographs or drawings of examples	☐	☐	☐
18. Using colors, shapes, objects	☐	☐	☐

Figure 8.11 continued

SURVEY III—STUDENT LEARNING STYLE INVENTORY (B)

This inventory will provide information relative to the learning style(s) of learners in a vocational program.

	Usually	Sometimes	Rarely
1. I do better on a test if it covers information I have to hear rather than read.	☐	☐	☐
2. I prefer to follow verbal directions rather than written directions.	☐	☐	☐
3. I prefer traditional lecture-type classes.	☐	☐	☐
4. I find it easy to add spoken numbers mentally.	☐	☐	☐
5. Verbal mathematics tests are easier for me than written mathematics tests.	☐	☐	☐
6. It is easy for me to remember the numbers and formulas I have heard during a conversation.	☐	☐	☐
7. I would rather use a map than verbal directions when I am going to a new place.	☐	☐	☐
8. I score high on reading comprehension tests.	☐	☐	☐
9. I prefer to read directions myself rather than to have someone read them to me.	☐	☐	☐
10. I do best on math tests.	☐	☐	☐
11. I solve math problems written on the board faster than most students in my class.	☐	☐	☐
12. In order to remember a phone number, I write it down as soon as I hear it.	☐	☐	☐
13. I can tell a lot about what a person means by the tone of their voice.	☐	☐	☐
14. I cannot study while the radio/TV is on.	☐	☐	☐
15. I tune the radio by sounds, not by the numbers on the dial.	☐	☐	☐
16. I prefer to read books which are illustrated by pictures or drawings.	☐	☐	☐
17. A story is easier to understand in movie form rather than book form.	☐	☐	☐
18. I like to look at art work—photographs, paintings, etc.	☐	☐	☐

EVALUATION OF LEARNING STYLES INVENTORIES

When all three surveys are completed and collected by the instructor, each survey may be quickly evaluated for "styles." All three surveys are broken into the same sections. These sections are as follows:

Section 1 (Items 1–3) Auditory language—Learning/Teaching by using the spoken word. Examples include hearing a lecture or participating in a discussion.

Section 2 (Items 4–6) Auditory mathematics—Learning/Teaching using verbal numerical symbols, relationships, and measurements.

Section 3 (Items 7–9) Visual language—Learning/Teaching from written words. Someone who reads with better than average comprehension and can process written communication well.

Section 4 (Items 10–12) Visual mathematics—Learning/Teaching by using visual numerical symbols, relationships, and measurements.

Section 5 (Items 13–15) Auditory Artistic—Learning/Teaching by auditory methods. A high score in this area indicates ability to distinguish between sounds, tunes of music, and other purely phonic sensations.

Section 6 (Items 16–18) Visual artistic—Ability to learn/teach by use of sight indicating skills in discriminating forms, colors, shapes, and other graphics.

Fritz, R. and Kurth, E. (1981). In Leatherwood, M. and Van House, P. *Working with disadvantaged students in vocational education.* Decatur, GA: DeKalb County Board of Education, pp. 27–31.

Visual Learners

Have students view visuals:

bulletin boards
banners/posters
transparencies
slides
films/filmstrips
flashcards
TV
pictures
graphs

Have students view/observe events:

dramatic presentations
role-playing
demonstrations
experiences
community situations
animal behavior

Have students read:

textbooks
comic books
pamphlets
posters
newspapers
bulletin boards
flash cards
reports
wall graffiti
letters
maps
magazines
riddles

Auditory Learners

Have students listen to:

radio
records
TV
speeches
lectures
debates
discussions
interpretive reading
concerts
interviews
audiotapes

Have students interact/verbalize through:

oral report
panel
debate
discussion
brainstorm
oral questions and answers
round robin

Kinesthetic Learners

Have students touch/feel:

objects
textures
temperatures
weights
lengths/distances
pressures

Have students try/do/use:

games
experiments
physical exercises
manipulative materials
pantomimes

Have students make/construct/draw:

diorama
collage
scroll
sand painting
diary
pictograph
media presentation
models
timelines
leaf prints
paintings
food
clothing
bulletin board
banner
graph
word wall
drawings
slide show
relief map
mazes

Have students write/copy:

problems
letters
shapes
words

Figure 8.12 gives an example of matching instructional techniques with learning styles.

Readability Levels

Basic reading skills include the ability to read words and comprehend their meaning. The lack of basic reading skills is a problem that many special needs learners have.

It has been well documented that reading deficiencies limit employment and educational opportunities for individuals. There is a definite relationship between inadequate reading skills and feelings of alienation and disenchantment about school voiced by many.

Numerous researches indicate a high proportion of nonreaders among school dropouts. Help must be given to learners with reading deficiencies so they can remain in school and develop vocational skills.

Stern–Otazo and D'Oronzio (1980) state that:

1. Reading means getting meaning from printed symbols.
2. The fact that a student is reluctant to read does not mean that he/she is reluctant to learn.
3. Teaching reading skills in a vocational setting means teaching a process, not teaching more content material.
4. Students will need help in learning to read materials before they can use those materials to learn concepts.
5. Vocational materials are often written to accommodate technical needs and not student needs.
6. Vocational content areas have specialized vocabulary which should be brought to the attention of learners enrolled in a program.

Every person has three reading levels. The first, the *independent reading level*, is the level at which an individual can read and comprehend information without assistance. The second, the *instructional reading level*, is the level at which an individual requires some assistance in identifying new words and/or in comprehending new content. The third, the *frustration reading level*, is the level at which an individual cannot read or comprehend material even with assistance.

Reading is an essential task in most vocational programs. Therefore, the type of reading deficiency the learner has should be identified and viewed in relationship to successful participation in the program. The three general types of reading deficiencies are (a) individuals who are nonreaders, (b) individuals who can read words by sounding them out but are unable to comprehend what has been read, and (c) individuals who are unable to read and comprehend at the level at which instructional materials are written.

Readability Formulas. A readability formula is used to help determine the reading level of an instructional material. Vocational teachers and support personnel can use a readability formula to:

1. identify technical vocabulary skills;
2. select appropriate textbooks;
3. analyze teacher-prepared materials;
4. modify texts and other instructional materials;
5. plan reading assignments for an entire class, a small group, or individual learners;
6. identify factors concerning comprehension;
7. analyze worksheets.

Several readability formulas can be used to deter-

Figure 8.12

MATCHING INSTRUCTIONAL TECHNIQUES WITH LEARNING STYLES

<table>
<tr><th>Method or Resource</th><th>Learning Style Characteristics to Which It Responds</th><th>Learning Style Characteristics to Which It Does Not Respond</th><th>Learning Style Characteristics to Which It Can Be Accommodated</th></tr>
<tr><td>1. Programmed learning</td><td>Motivation, persistence, responsibility, and a need for structure; a need to work alone, a visually oriented student.</td><td>A lack of motivation, persistence or responsibility; a need for flexibility or creativity; a need to work with peers or adults; auditory, tactual, or kinesthetic perceptual strengths.</td><td>Sound, light, temperature, and design; a need for intake, appropriate time of day, and a need for mobility.</td></tr>
<tr><td colspan="4">Note: When programmed learning sequences are accompanied by tapes, they will appeal to auditory learners; when they include films or filmstrips, they will reinforce the visually-oriented student; when teachers design small-group techniques such as team learning, circle of knowledge, or brainstorming, peer-oriented students may develop an ability to use programs more effectively than if they use them exclusively as individual learners.</td></tr>
<tr><td>2. Contract activity package</td><td>A need for sound and an informal design; motivation, persistence, and responsibility; a need to work either alone, with a friend or two, or with an adult, all perceptual strengths and weaknesses and the need for mobility.</td><td>None</td><td>Sound, light, temperature and design; motivation, persistence, responsibility; sociological needs; perceptual strengths, intakes, time of day, and the need for mobility.</td></tr>
<tr><td colspan="4">Note: Contract activity packages respond to all learning style characteristics provided that (1) they are used correctly, and (2) multisensory resources are developed as part of them.</td></tr>
<tr><td>3. Instructional Package</td><td>A need for sound or structure; a need to work alone; all perceptual strengths.</td><td>A lack of responsibility; a need for peer or adult interactions.</td><td>Light, temperature, and design; motivation, persistence; intake, time of day, and mobility.</td></tr>
<tr><td colspan="4">Note: Because of their multisensory activities, instructional packages are very effective with slow learners. Unless the curriculum is extremely challenging, they may be boring to high achievers.</td></tr>
<tr><td>4. Task cards and learning circles</td><td>Motivation, persistence, responsibility, and the need for structure; visual or tactual strengths.</td><td>A lack of motivation, persistence, responsibility, or a need for structure; auditory or kinesthetic strengths; a need for mobility</td><td>Sound, light, temperature, and design; the need to work alone, with peers, or an adult; intake and time of day.</td></tr>
<tr><td>5. Tapes, audio cassettes</td><td>A need for sound; motivation, persistence, responsibility, and a need for structure; a need to work alone; auditory strengths.</td><td>A need for silence; a need to work with peers or an adult; visual, tactual, or kinesthetic strengths, and a need for mobility.</td><td>Light, temperature, and design; intake and time of day.</td></tr>
</table>

(Dunn and Dunn, 1978, p. 3)

mine the reading level of instructional materials. Figure 8.13 shows the Fry Readability Formula. Figure 8.14 shows the FOG Reading Index. Figure 8.15 shows the Flesch Readability Formula.

The Cloze Procedure can be used to test for a learner's ability to comprehend what has been read. This technique is well suited to vocational instructional materials because of the technical terms involved. Figure 8.16 shows the Cloze Procedure for Reading Comprehension.

Once the readability of an instructional material has been determined and compared with the reading level of a student, the vocational instructor and support personnel should identify any difficulties and decide how to overcome them (e.g., select instructional materials written at a lower reading level, adapt existing materials, assist the learner in remedial sessions).

Techniques to Assist Learners with Reading Deficiencies. Vocational instructors and support personnel can use a variety of techniques to help learners with reading deficiencies in vocational programs. These include:

1. Determine the readability level of the material and the reading level of the learner.

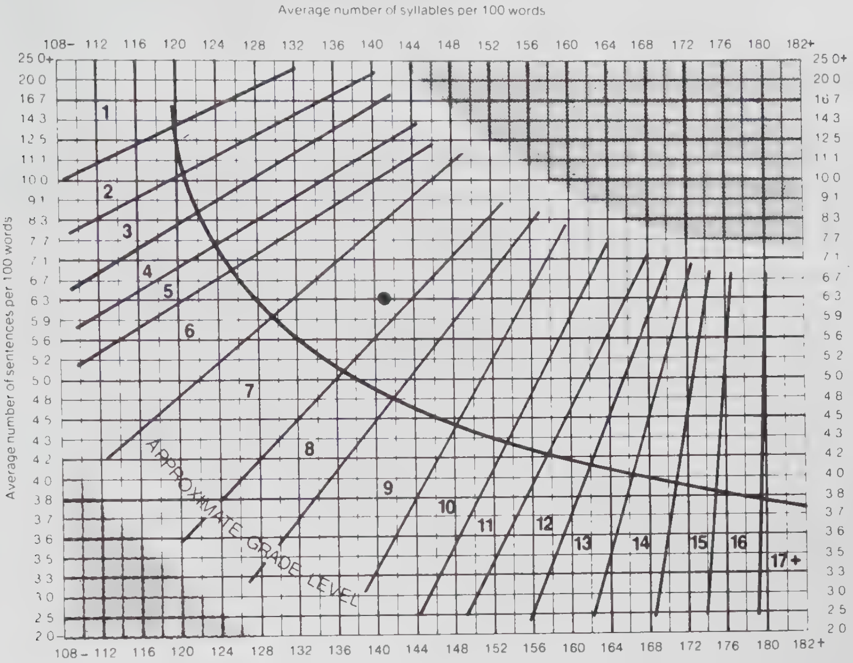
2. Determine how well learners can read the textbook using readability formulas, the Cloze Procedure, and/or Cloze reading test scores.

3. Reading material used in a vocational program should be compatible with the interest and ability levels

Figure 8.13

GRAPH FOR ESTIMATING READABILITY —EXTENDED

by Edward Fry, Rutgers University Reading Center, New Brunswick, N J 08904



Expanded Directions for Working Readability Graph

1. Randomly select three (3) sample passages and count out exactly 100 words each, beginning with the beginning of a sentence. Do count proper nouns, initializations, and numerals.
2. Count the number of sentences in the hundred words, estimating length of the fraction of the last sentence to the nearest one-tenth.
3. Count the total number of syllables in the 100-word passage. If you don't have a hand counter available, an easy way is to simply put a mark above every syllable over one in each word, then when you get to the end of the passage, count the number of marks and add 100. Small calculators can also be used as counters by pushing numeral 1, then push the + sign for each word or syllable when counting.
4. Enter graph with *average* sentence length and *average* number of syllables; plot dot where the two lines intersect. Area where dot is plotted will give you the approximate grade level.
5. If a great deal of variability is found in syllable count or sentence count, putting more samples into the average is desirable.
6. A word is defined as a group of symbols with a space on either side; thus, *Joe, IRA, 1945,* and & are each one word.
7. A syllable is defined as a phonetic syllable. Generally, there are as many syllables as vowel sounds. For example, *stopped* is one syllable and *wanted* is two syllables. When counting syllables for numerals and initializations, count one syllable for each symbol. For example, *1945* is four syllables, *IRA* is three syllables, and & is one syllable.

Note: This "extended graph" does not outmode or render the earlier (1968) version inoperative or inaccurate; it is an extension. (REPRODUCTION PERMITTED—NO COPYRIGHT)

Figure 8.14

FOG READING INDEX

Several steps are required when using the FOG Index to determine the reading difficulty of instructional materials. The results of these steps will be a reading level comparable to a grade level. Calculations for each of these steps may be recorded in the spaces at the right.

	Sample 1	Sample 2	Sample 3
1. Choose three samples, 100 words each, from various sections of the material.	page ______	page ______	page ______
2. Count the number of sentences in each sample, stopping the count with the sentence ending nearest the 100-word limit.			
A. Number of sentences.	A. ______	______	______
3. Divide the number of words in the sample by the number of sentences. This will provide the average sentence length.			
B. Number of words in the sample divided by number of sentences.	B. ______	______	______
4. Count the number of words in the samples that have three or more syllables.			
C. Total number of words with three or more syllables.	C. ______	______	______
D. Number of words with three or more syllables that should not be counted. These are: (a) Proper names; (b) Combinations of short, easy words (e.g., bookkeeper); (c) Verb forms made into three syllables by adding -ed, -es, (e.g., created, opposes); (d) Technical in nature (if you intend to teach as vocabulary).	D. ______	______	______
E. Corrected number of words with three or more syllables (C minus D).	E. ______	______	______
5. Add the total average sentence length and the corrected number of three-syllable words.			
F. Average sentence length (B) plus corrected number of three syllable words (E).	F. ______	______	______
6. Compute reading level for the sample.			
G. Multiply previous level (F) by 0.4.	G. ______	______	______
7. Compute the average reading levels of the three samples.			
H. Total of the three readings divided by three.	H. ______	______	______

$$\frac{G1 + G2 + G3}{3} = \text{FOG Index (Reading Difficulty Level)}$$

Modified from Phelps, L. A. and Lutz, R. (1977). *Career exploration and preparation for special needs learners.* Boston: Allyn and Bacon.

Figure 8.15

FLESCH READABILITY FORMULA

Follow these rules and procedures in applying the Flesch Formula:

A. Selection of Samples
  1. Take enough written samples from the text to make a fair test. To make your samples random, go by a strictly numerical scheme (e.g., selecting random page numbers from a given book) rather than picking "good" or "typical" samples.
  2. Each sample should start at the beginning of a paragraph. Example: In a 152-page book, take the first paragraphs on each of pages 7, 25, 78, 122. Page numbers are chosen "blind" without looking at these pages.

B. Counting the Number of Words
  1. Start counting the words. Stop when you reach 100. You need 100 words for each sample.
  2. Count contractions and hyphenated words as one word.
  3. Count numbers and letters as words, if separated by spaces. Example: "1948" and "C.O.D." would each count as one word.

Figure 8.15 continued

C. Counting the Number of Sentences
  1. Count complete sentences or complete units of thought. Some sentences are marked off by colons or semicolons.
  2. Don't break up sentences joined by conjunctions such as "and" or "but."

D. Figuring Average Sentence Length
  1. When using several samples, figure the average sentence length for all the samples combined.
  2. Total the number of words in all of the samples (4 samples would have 400 words) and divide by the number of sentences in all of the samples.

E. Counting the One-Syllable Words
  1. Count all the one-syllable words in all of the 100-word samples and divide the total number of one-syllable words by the number of samples.

F. Figuring the Reading Ease Score
  1. Apply the average sentence length in words and the average number of one-syllable words per sample to the Flesch Reading Ease Index Table to arrive at the reading ease index number and then use the Flesch Conversion Table to compute the estimated reading grade.

FLESCH READING EASE INDEX TABLE

Average Wrds. Per Sentence	Number of One-Syllable Words per Hundred Words																						
	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40
9	94	90	87	84	81	78	74	72	68	65	61	58	56	52	49	45	42	40	36	33	29	27	23
10	93	89	86	83	80	77	73	71	67	64	60	57	55	51	48	44	41	39	35	32	28	26	22
11	92	88	85	82	79	76	72	70	66	63	59	56	54	50	47	43	40	38	34	31	27	25	21
12	91	87	84	81	78	75	71	69	65	62	58	55	53	49	46	42	39	37	33	30	26	24	20
13	90	86	83	80	77	74	70	68	64	61	57	54	52	48	45	41	38	35	32	29	25	23	19
14	89	85	82	79	76	72	69	67	63	60	56	53	50	47	44	40	37	34	31	28	24	22	18
15	88	84	81	78	75	71	68	66	62	59	55	52	49	46	43	39	36	33	30	27	23	21	17
16	87	83	80	77	74	70	67	65	61	58	54	51	48	45	42	38	35	32	29	26	22	20	16
17	86	82	79	76	73	69	66	64	60	57	53	50	47	44	41	37	34	31	28	25	21	19	15
18	85	81	78	75	72	68	65	63	59	56	52	49	46	43	40	36	33	30	27	24	20	18	14
19	83	80	77	74	71	67	64	61	58	55	51	48	45	42	39	35	32	29	26	23	19	17	13
20	82	79	76	73	70	66	63	60	57	54	50	47	44	41	38	34	31	28	25	22	18	16	12
21	81	78	75	72	69	65	62	59	56	53	49	46	43	40	37	33	30	27	24	21	17	15	11
22	80	77	74	71	68	64	61	58	55	52	48	45	42	39	36	32	29	26	23	20	16	14	10
23	79	76	73	70	67	63	60	57	54	51	47	44	41	38	35	31	28	25	22	19	15	13	9
24	78	75	72	69	66	62	59	56	53	50	46	43	40	37	34	30	27	24	21	18	14	12	8
25	77	74	71	68	65	61	58	55	52	49	45	42	39	36	33	29	26	23	20	17	13	11	7
26	76	73	70	67	64	60	57	54	51	48	44	41	38	35	32	28	25	22	19	16	12	10	6
27	75	72	69	66	63	59	56	53	50	47	43	40	37	34	31	27	24	21	18	15	11	9	5
28	74	71	68	65	62	58	55	52	49	46	42	39	36	33	30	26	23	20	17	13	10	8	4
29	73	70	67	64	61	57	54	51	48	45	41	38	35	32	29	25	22	19	16	12	9	7	3
30	72	69	66	63	60	56	53	50	47	44	40	37	34	31	27	24	21	18	15	11	8	6	2
31	71	68	65	62	59	55	52	49	46	43	39	36	33	30	26	23	20	17	14	10	7	5	1
32	70	67	64	61	58	54	51	48	45	42	38	35	32	29	25	22	19	16	13	9	6	4	
33	69	66	63	60	57	53	50	47	44	41	37	34	31	28	24	21	18	15	12	8	5	2	
34	68	65	61	59	56	52	49	46	43	40	36	33	30	27	23	20	17	14	11	7	4	1	
35	67	64	60	58	55	51	48	45	42	38	35	32	29	26	22	19	16	13	10	6	3		
36	66	63	59	57	54	50	47	44	41	37	34	31	28	25	21	18	15	12	9	5	2		
37	65	62	58	56	53	49	46	43	40	36	33	30	27	24	20	17	14	11	8	4	1		
38	64	61	57	55	52	48	45	42	39	35	32	29	26	23	19	16	13	10	7	3			

FLESCH CONVERSION TABLE

Reading Ease Score	Estimated Reading Grade
90 to 100	5th Grade
80 to 90	6th Grade
70 to 80	7th Grade
60 to 70	8th to 9th Grade
50 to 60	10th to 12th Grade
30 to 50	13th to 16th Grade (College)
0 to 30	College Graduate

Select student instructional materials. (1977). Columbus, OH: National Center for Research in Vocational Education, pp. 10–12.

Figure 8.16

CLOZE PROCEDURE FOR READING COMPREHENSION

Construction

1. Select a representative passage from your class text of approximately 520 words. The passage should *not* have been previously read by the students. Include only the main body of the material (no captions, heading, etc.).
2. Type the entire first sentence as it is in the text.
3. Beginning with the second sentence, delete every *tenth* word. Use a fifteen space line in place of the deleted word. Number each deletion in the center of the fifteen space line.
4. Make *50* deletions.
5. Leave the last sentence exactly as it is in the text.

Administration

1. Prior to giving the test, demonstrate to students how to take the test. Make the following remarks (or paraphrase):

> On the next page is a sample of a new kind of test. Each of these tests is made by copying a few paragraphs from a book. Every fifth word was left out of the paragraphs, and blank spaces were put where the words were taken out.
>
> Your job will be to guess what word was left out of each space and to write that word in that space.

It will help you in taking the test if you remember these things.

1. Write only one word in each blank.
2. Try to fill every blank. Don't be afraid to guess.
3. You may skip hard blanks and come back to them when you have finished.
4. Wrong spelling will not count against you if we can tell what word you meant.
5. Most of the blanks can be answered with ordinary words but a few will be
   numbers like .... 3,427 or $12 or 1954
   contractions like.. can't or weren't
   abbreviations like.. Mrs. U.S.A.
   parts of hyphenated words like .... self- in the word self-made

2. Using an over head projector or the chalkboard, present a short passage of three or four sentences with every tenth word deleted as an example of the activity.
3. Have the class fill in the deletions orally. Explain that while more than one word could be used, only the exact replacements will be accepted on this test.
4. Hand out the sheet to the class.
5. Answer any questions.

Although there is no time limit, students will usually complete the test in 50 minutes.

Scoring the Test

A student's responses are scored correct only when they exactly match the words deleted. Minor spelling errors are scored correct so long as the response is otherwise correct. However, omission of plural or tense endings is scored incorrect as in "table" for tables or "work" for worked. Convert raw scores to percentage scores by multiplying the number correct by two, when a 50-item test is used. To save time, use a window key with holes cut in a sheet of paper so that everything but the responses is masked when the sheet is placed over the test. Write the correct response beside each window.

______________ Raw Score × 2 = ______________%

58% and higher - Independent level
44% to 58% - Instructional level
below 44% - Frustrational level

of the students enrolled. A format and content analysis should be conducted to determine the appropriateness of a material.

4. Use several books or materials at various levels of reading difficulty that cover the same content.
5. Rewrite important passages or selections to lower reading levels by simplifying vocabulary and shortening sentences (do not delete necessary technical terms).
6. Tape important information from text or cassettes.
7. Introduce and reinforce background concepts needed to understand the material in the reading (e.g., films, filmstrips, videos, slides, still pictures, models).
8. Cover all unfamiliar technical terms and words that may present difficulty in the reading materials.
9. Review previously introduced terminology frequently used in the vocational program and assist learners in analyzing the meaning. Comprehension and reading can suffer if a learner has to pause too often to address unfamiliar words.
10. Develop questions for learners before a silent or oral reading assignment and follow up the activity by discussing the questions.
11. Make certain that printed pages have enough blank space so the learner will not be confused when reading, especially when there are pictures or diagrams involved.
12. Vocabulary words should be in bold print and defined on the same page they are used or at the end of the chapter.
13. A glossary should provide a guide to pronunciation of terms in reading materials.
14. Important subject headings should be presented in bold print.
15. Double-column pages provide for easier eye movement when reading content.
16. Underline pertinent information and specific directions.
17. Use a highlighting pen to identify main ideas, important lists, technical terms, and important facts.
18. Provide extra help for students with reading problems.
19. Once students read and comprehend content, related activities with hands-on experience will help to complete the learning process.
20. Modify test questions to make them easier to comprehend.

Selecting Instructional Materials for Special Needs Learners

Instructional materials should stimulate learner interest, motivate individuals to learn, and help them achieve realistic objectives. Using a variety of instructional materials is often critical to the success of special needs learners enrolled in vocational education programs. These materials require careful analysis before being selected. The characteristics of the material (e.g., reading level) should be compared with the abilities of individual learners who will be using them. Figure 8.17 shows a learner profile that can be used when selecting instructional materials.

The level of difficulty of the materials should be consistent with the current functioning level of the student. Often information about the student's functioning levels can be obtained from student files or from support personnel.

The format and content of the instructional materials should undergo close scrutiny by the teacher. This analysis should focus on such elements as technical clarity of presentation, content, appropriate uses of the material (e.g., student use, teacher use), interest level, and types and number of illustrations. When technical terms are used often, the materials must be clear and expressive. For some students, it will be helpful or necessary to use numerous illustrations, examples, and analogies. Other effective devices used to emphasize content include drawings, cartoons, arrows, underscoring, and setting important points off in boxes. Most companies are cooperative and will send literature and/or representatives to illustrate their products.

In evaluating and selecting instructional materials, Hoellein, Feichtner, and O'Brien (1979) state that the materials should:

1. be written at a level that the student can comprehend;
2. include statements explaining the relevance and importance of the subject matter to the student;
3. include objectives stated in behavior terms and make them known to the student;
4. include appropriate pre-assessment materials to identify previously mastered skills of the student;
5. be designed in a sequential structure that is logical in its sequence of content and level of difficulty;
6. include instructional objectives that provide a variety of learning activities;
7. include short term post-assessment activities to measure mastery of content skills.

Ideal characteristics of instructional materials include a practical presentation of content rather than a highly theoretical presentation using clear, unambiguous language. There should be opportunities to build an appropriate technical vocabulary. The most successful materials are flexible in their use, from individualized settings to group settings. Frequent

Figure 8.17

LEARNER PROFILE FOR USE IN SELECTING INSTRUCTIONAL MATERIALS

The following information should be recorded and used when selecting instructional materials:

1. Channel of learning through which the learner can best acquire and retain information through instructional materials:
   - __________ visual
   - __________ auditory
   - __________ kinesthetic/psychomotor
   - __________ blend (specify)
2. Learner preference of grouping arrangement during the learner process:
   - __________ independently
   - __________ one-to-one with teacher
   - __________ buddy arrangement with a peer
   - __________ small group
   - __________ large groups
   - __________ blend (specify)
   - __________ other (specify)
3. Psychomotor problems that might interfere with learner's ability to manipulate materials (e.g., motor coordination, vision problems, hearing problems, speech problems).
4. Learner's proficiency in English:
   - __________ needs no assistance
   - __________ requires some supplementary assistance
   - __________ has little proficiency
5. Learner's reading level:____________________
6. The pace at which the learner can receive information:________________________
7. The ability of the learner to retain information (e.g., how much reinforcement is usually required):____
8. Level of distractibility of learner:____
9. Type of instructional material preferred by learner:
   - __________ printed material
   - __________ audio materials
   - __________ manipulative materials
   - __________ audiovisual materials
   - __________ blend (specify)

diagnostic checkpoints for feedback and appropriate remediation (e.g., drill and practice exercises) should be given. Involvement in follow-up, hands-on activities is also preferable.

Some specific considerations that should be addressed when reviewing instructional materials that will be used with special needs learners enrolled in vocational programs include:

1. the learning style of the student (e.g., visual, auditory, psychomotor, or a combination);
2. amount of content covered in any given interval (e.g., chapter, module, unit, section);
3. technical accuracy of the content;
4. clarity and complexity of directions;
5. organization of content (e.g., well planned, sequenced);
6. technical terminology (presented in bold print, glossary of technical terms);
7. amount of reading material per written page or slide frame;
8. type and size of print and drawings;
9. margin spacing;
10. reading level of printed material;
11. attention requirements (e.g., length of time per lesson, level of difficulty of material);
12. opportunities for learners to practice what they have learned from the material;
13. material that can be easily broken into subtasks if necessary;
14. material that provides periodic reinforcement to learners.

Figure 8.18 shows an instructional material analysis sheet. This guide can either be followed explicitly when seriously considering a specific material or referred to as an overview of important considerations to keep in mind when reviewing materials.

Examples of Instructional Materials. Many effective materials are available for use with special needs learners enrolled in vocational programs. Two examples of instructional materials that have been successful in meeting the needs of handicapped and disad-

Figure 8.18

INSTRUCTIONAL MATERIAL ANALYSIS SHEET

Name of Material ____
Author ______________________________ Copyright Date ______________________
Vendor Address ____
Cost ________________________

Type of Material:
__________ textbook
__________ workbook
__________ filmstrip
__________ computer software
__________ slidetape
__________ videotape
__________ model
__________ other (specify)

Format of printed materials:
__________ hardbound
__________ paperback
__________ loose leaf notebook
__________ diskette
__________ cassette accompanies printed material
__________ number of pages (if applicable)

Readability:
__________ readability level
__________ interest level (high, medium, low)
__________ print format (large, medium, small)

Intended use of material:
__________ student resource
__________ teacher resource
__________ individual instruction
__________ group instruction
__________ reinforcement material
__________ combination (specify)

Layout:
__________ empty or free space on printed page or screen (ample, sparse)
__________ paragraph spacing (excellent, good, poor)
__________ illustrations (frequently used, sparingly used)

Supplementary information:
__________ prerequisite materials necessary
__________ demand for math skills (high, moderate, low)
__________ basic skill requirements (specify)

Figure 8.18 continued

Item Under Consideration	Yes	No	N/A	Notes
1. The content of the material relates to the instructional program				
2. The material reinforces concepts covered in the classroom instruction (supplementary aid)				
3. The content is current and in line with recent technology				
4. The material is interesting				
5. Technical terms are defined and used in the material				
6. Technical terms are reinforced by explanation (illustrations, examples, activities)				
7. Technical terms are highlighted (bold letters, framed, repeated)				
8. The reading level of the material matches the reading ability of a particular learner or group				
9. Level of complexity and rate of speed at which information is presented is appropriate				
10. The concepts are presented clearly and simply and are easy to understand				
11. All directions can be clearly understood				
12. Important ideas are highlighted				
13. There is adequate space for leaners to provide written responses				
14. The organization of information is clear and easy to follow				
15. There is a subject index provided				
16. A glossary of terms is presented				
17. Performance objectives are presented				
18. The instruction is or can be broken into reinforcing small steps				
19. The material is self-paced				
20. Text is reinforced with illustrations, graphs, charts, and diagrams				
21. The material provides a variety of periodic self-checks to reinforce learners				
22. Review questions and answer keys are provided				
23. Student activities and work sheets are provided				
24. Hands-on learning activities are provided				
25. A teacher's handbook or manual is provided				
26. The material provides for follow-up activities to reinforce concepts				
27. The material can be used for (a) individualized instruction, (b) small group instruction, and/or (c) large group instruction				
28. The amount of time required to prepare, administer and evaluate learner progress on the material is reasonable				
29. Prerequisite materials are needed prior to using				
30. Equipment is needed to use the material				
31. Necessary equipment is available and accessible				
32. Adequate space is available in the classroom or laboratory to store the material				
33. Adequate work space is available in the classroom or laboratory so that materials can be used properly				
34. The cost of the material is compatible with the total budget				
35. Parts of the material can be purchased separately from the overall package				
36. The materials will be used often enough to justify the cost				
37. The material is well made and likely to withstand repeated use				
38. The material can be reproduced at a minimum cost				
39. The material is not difficult or expensive to reorder				
40. The material is presentable as it is or can be easily adapted				

Decision:

________ purchase material for student use

________ order material for school/ district curriculum library

________ purchase material for reference

________ do not purchase material

vantaged learners are (1) Career Related Instruction (CRI) materials and (2) Vocational Applied Mathematics (VAM) materials.

Career Related Instruction (CRI) Materials. The Career Related Instruction (CRI) materials are composed of 1802, fully illustrated, programmed learning units that expose students to:

a. vocational terminology,
b. vocational concepts,
c. vocational tools, equipment, and machinery.

CRI student materials are in the form of individualized instructional packets called modules. Each module follows the same format, making the program consistent. The student materials are written at the third- to fourth-grade reading levels. Since they are designed to be nonconsumable, modules can be used more than once.

The CRI individualized, student-directed modules can be used to:

1. provide a small group with one-to-one prevocational instruction in terminology, tools, and concepts before and during vocational instruction;
2. introduce the vocational program to the student;
3. supplement vocational instruction;
4. assist non-English speaking students in understanding vocational terminology, tools, and concepts;
5. provide reading teachers with materials related to student programs that are written to be used by nonreaders or readers with a third- or fourth-grade reading level or less.

Each CRI module includes a:

1. cover page,
2. word list page,
3. performance objective page,
4. series of job steps (instructional steps),
5. pretest/posttest.

Audiotapes of each module are available for nonreading and visually impaired students. The tapes read the module to the student. For each subcluster there is a teacher's manual, which includes:

1. a list of modules written for the occupational subcluster;
2. a master tool list that lists all tools required for the subcluster;
3. a teacher information page for each module within the subcluster (this page summarizes the module, lists tools required for the module, and details any assistance the teacher must give the student with that module);
4. answer sheets for the "Now, Practice What You Have Learned" pretest/posttest for each module in the subcluster;
5. a master word list for the subcluster which lists the vocabulary introduced in the subcluster;
6. reproducible student answer sheets to be used with the "Now, Practice What You Have Learned" section of the student module;
7. visual aids needed by the student.

CRI modules are developed in 10 cluster areas containing a total of 34 occupations. The 10 cluster areas are (1) Agriculture/Natural Resources (ANR), (2) Automotive & Power Service (APS), (3) Clothing/Textile Service (CTS), (4) Construction (CON), (5) Distribution (DIS), (6) Food Preparation & Service (FPS), (7) Graphics & Communication Media (GCM), (8) Health (HTH), (9) Manufacturing (MFG), and (10) Office & Business (OB).

Figure 8.19 shows a portion of a CRI module pertaining to commercial photography in the Graphics and Communication Media occupational cluster.

Vocational Applied Mathematics (VAM) Materials. One of the basic skill areas that many special needs students are weak in is applied mathematics. Vocational teachers often have to set aside time in the regular instructional program to give lessons in basic measurement areas such as in reading a ruler, measuring the weight of some items, and computing the length or width of some material. In addition to basic measurement, special needs students are often weak in long division, fractions, decimals, and solving written problems.

Vocational teachers have a number of commercially available materials that can be used to support instruction in applied mathematics, such as *Math for the Automotive Trade* and *Vocational Mathematics for Business* available from South Western Publishing Company. In addition several states have developed their own vocational math instructional materials.

One of the earliest efforts in developing materials was started by the Jefferson County School System in Lakewood, Colorado. The mathematics instructional materials were developed over an eight-year period. It is called *Systematic Teaching and Measuring Mathematics* (STAMM). The STAMM notebook on vocational math contains program goals, a systematic model for instruction, program implementation steps, resources, workbook exercises and answers, and test and answer keys. These materials are used mostly in class settings but can be adapted for individual student use.

The state of Georgia followed the lead provided by project STAMM and in a cooperative effort with the Jefferson County School System, developed materials in vocational mathematics. This project, called *Voca-*

Figure 8.19

CRI MODULE—COMMERCIAL PHOTOGRAPHY

CRI

occupational cluster:
occupational subcluster:
module: date:
related vocational task:
prevocational module title:

Industry has told us that they require you to know and be able to do the following skills. Take your time. Read very carefully. Ask questions.

Read the objective as if it were one sentence—your instructor will show you how.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. How to set up the enlarger to make prints.

AND IN ORDER TO DO THIS YOU WILL BE GIVEN:

1. How to set up the enlarger to make prints.
2. Student has done GCMCP10001.

WE WILL KNOW YOU CAN DO IT (PASS) WHEN:

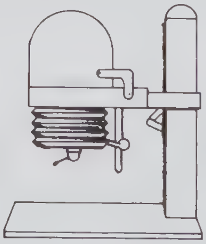
1. You can write down the name of the tool used to make prints from negatives, without making mistakes.
2. You can pick out the 1st thing you do to make a print, without making any mistakes.
3. You can pick out what you must do to the negative before you make a print, without making any mistakes.
4. You can pick out what to do to make a print bigger, without making any mistakes.

WORD LIST

HOW TO SPELL	HOW TO SAY
ENLARGER	EN - **LAR** - JER (**AR** like in **CAR**)
NEGATIVE	**NEG** - U - TIV
CARRIER	KAR - **E** - ER
FOCUS	**FO** - CUS
CONTROL	KUN - **TROL**

JOB STEPS:

1. In this module you will learn how to set up the enlarger to make a print.
2. The enlarger is what you use to make prints from your negative.



ENLARGER

WE USE THE ENLARGER TO MAKE A PRINT FROM THE NEGATIVE.

tional Applied Mathematics (VAM), provides resources for the vocational teacher to use in assisting regular and special needs students in developing basic math skills in order to be successful in vocational areas. VAM materials are designed to be used independently by students or in an entire class setting.

VAM workbooks are available in the vocational areas of auto body, auto mechanics, construction, cosmetology, drafting, electro-mechanical/electricity, electronics, food service, graphic arts, health occupations, industrial arts, and metals. Additional VAM workbooks are being developed in agriculture, business education, and home economics. VAM workbooks contain student study sheets, application problems, a self-help appendix, and answers. A teacher's manual includes instructions for implementing VAM, pre-post tests, answer sheets, answer keys, pre-post test correlation/prescription sheet, and blank prescription sheets that can be reproduced as needed.

The VAM materials are exceptionally helpful in individual prescribed learning. Vocational teachers should administer the pretest and score the test as directed in the teacher's manual. If a student misses more than two out of three items for each math skill, the teacher uses the appropriate pre-post test correlation/prescription sheet to prescribe remedial instruction. This instruction involves completing an additional learning exercise in a numbered appendix, supplemental word problems, and workbook pages. For example, John, a drafting student, correctly answered only one item out of three in the tech computational skill area #5 (subtracting fractions) on the pretest. His teacher prescibed instructions for him to go to Appendix F, which presents the concepts of subtracting fractions and provides additional practice problems. In addition, John is to complete the supplemental word problems found in Appendix F and specific workbook pages.

Figure 8.20 shows an example portion of the VAM prescription sheet and a portion of the pre-post test

Figure 8.20

EXAMPLE PORTION OF PRESCRIPTION SHEET

	Prescription					
Computational Skills	Test Items			Appendices	Workbook	Supp. Wd. Probs.
_____ 1. Addition - Whole Numbers	1	2	3			
_____ 2. Addition - Fractions	4	5	6			
_____ 3. Addition - Decimals	7	8	9			
_____ 4. Subtraction - Whole Numbers	10	11	12			
_____ 5. Subtraction - Fractions	13	14	15			
_____ 6. Subtraction - Decimals	16	17	18			
_____ 7. Multiplication - Whole Numbers	19	20	21			
_____ 8. Multiplication - Fractions	22	23	24			
_____ 9. Multiplication - Decimals	25	26	27			
_____ 10. Division - Whole Numbers	28	29	30			
_____ 11. Division - Fractions	31	32	33			
_____ 12. Division - Decimals	34	35	36			

EXAMPLE PRE-POST TEST CORRELATION/PRESCRIPTION SHEET

Computational Skills	Test Items			Appendices
1. Addition - Whole Numbers	1	2	3	A
2. Addition - Fractions	4	5	6	E
3. Addition - Decimals	7	8	9	I
4. Subtraction - Whole Numbers	10	11	12	B
5. Subtraction - Fractions	13	14	15	F
6. Subtraction - Decimals	16	17	18	I
7. Multiplication - Whole Numbers	19	20	21	C
8. Multiplication - Decimals	22	23	24	J
9. Division - Whole Numbers	25	26	27	D
10. Division - Decimals	28	29	30	K

correlation sheet used to complete the prescription sheet. Figure 8.21 is an example worksheet that the student completes before going on to additional practice problems and word problems contained in Appendix F. Figure 8.22 shows some example subtraction of fraction problems for drafting.

Computer Software. With the growing popularity of mainstreaming handicapped or disadvantaged children into vocational programs, vocational teachers must develop varied teaching techniques to reach every student in the classroom. There have been many cases of special needs students who have overcome their labels at the keyboard of a computer. The computer can be a very valuable learning tool for many students if the appropriate software can be found.

Many special needs learners can benefit from the use of microcomputers. In this high-technology and information-oriented society, knowledge and use of the computer is becoming extremely important for employment. However, special needs students cannot learn anything from the computer if good software is not available.

Most software falls into three basic categories: tutorial, simulation, and tool. The tutorial software communicates a body of knowledge to the user. Some

Figure 8.21

EXAMPLE VAM WORKSHEET

F

WORKSHEET F-1
Subtraction of Fractions

Each of the two numbers in a fraction is identified by a name.

$$\begin{array}{l} 3 \leftarrow \text{NUMERATOR} \\ 4 \leftarrow \text{DENOMINATOR} \end{array}$$

To subtract two fractions, the denominators for the fractions must be alike. Study this example:

$$\begin{array}{r} \frac{2}{3} \\ -\frac{1}{2} \\ \hline \end{array}$$

Since 2 and 3 are not alike, you must select a denominator that both 3 and 2 will divide into evenly. In this problem the common denominator is 6.

$$\frac{2}{3} = \frac{}{6} \qquad \begin{array}{r} 2 \\ 3\overline{)6} \end{array} \qquad \text{Think}$$

$$-\frac{1}{2} = \frac{}{6} \qquad \begin{array}{r} 3 \\ 2\overline{)6} \end{array} \qquad \text{Think}$$

$$\begin{array}{c} 2 \times 2 \qquad \text{Think} \\ \frac{2}{3} = \frac{4}{6} \end{array}$$

$$\begin{array}{c} 3 \times 1 \qquad \text{Think} \\ -\frac{1}{2} = \frac{3}{6} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{4}{6} \\ -\frac{3}{6} \\ \hline \frac{1}{6} \end{array}$$

Now subtract the numerators 4 and 3 (4 − 3 = 1).
The denominator "6" is written and the fraction is $\frac{1}{6}$.

Figure 8.22

EXAMPLE VAM COMPUTATIONAL AND WRITTEN PROBLEMS

F

WORKSHEET F-2
Subtraction of Fractions

Sometimes it may be necessary to rename the fractions so you can subtract. Study these examples.

(A)

$$\begin{array}{rcr} 7\frac{1}{4} & = & 7\frac{1}{4} \\ -\ 2\frac{1}{2} & = & -\ 2\frac{2}{4} \\ \hline \end{array}$$

$$\begin{array}{r} \overset{6}{\cancel{7}}\frac{5}{4} \\ -\ 2\frac{2}{4} \\ \hline 4\frac{3}{4} \end{array} \qquad \frac{5}{4} = \frac{4}{4} + \frac{1}{4} \text{ Think}$$

(B)

$$\begin{array}{rcr} 9\frac{1}{2} & = & 9\frac{4}{8} \\ -\ 5\frac{7}{8} & = & -\ 5\frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \overset{8}{\cancel{9}}\frac{12}{8} \\ -\ 5\frac{7}{8} \\ \hline 3\frac{5}{8} \end{array} \qquad \frac{12}{8} = \frac{8}{8} + \frac{4}{8} \text{ Think}$$

programs let the user interact by asking questions and giving responses. The basic format of these programs is drill-and-practice. Typing, foreign languages, multiplication tables, and vocabulary are used frequently as tutorial subjects. A tutorial program could be a very effective way for many special needs learners to get the extra reinforcement they need to learn new information.

Simulation software packages allow students to create real or imaginary situations and observe what happens when things are altered in the program. Lab experiments and biological processes are examples of good simulation subjects. The problem with this type of software with some special needs learners is that it may involve the student in extensive decision-making. This may be frustrating to some students.

Tool software programs provide a framework for the students to complete other activities. Examples of this type of program include a spreadsheet, word processing programs, and graphics programs.

When analyzing computer software teachers should consider several areas:

1. *Technical aspects of hardware* - Teachers should make certain that the program will load correctly without problems and run smoothly without stopping. The program should take advantage of the capabilities of the machine and use them effectively. If necessary, the program should be able to be used with many of the devices that are available to vision-impaired, mobility-impaired, or hearing-impaired students when looking at hardware.

2. *Technical aspects of software* - If learners can 'crash' or stop the program by merely pushing several keys together or by giving an inappropriate response to a question, the software is probably not appropriate. Learners should be able to control the pace of the program. Special needs students may require a greater amount of time to figure out an answer, read an instruction, or comprehend what is on the screen. The program should allow students to proceed at their own pace. Software programs should contain hints, tables, definitions, or word lists. These areas should be easy to get into and out of without interrupting the sequence of the program. The program should also provide for the setting of different levels at which it will be run. The learner enters his or her name and, according to the teacher's perception of the student's abilities, the program can run at a low, middle, or high level. In the same manner, a good special needs program might have the ability to be set at different levels according

to the mental age or comprehension of the user. This same program might be capable of moving up a level once it perceives that the user has demonstrated mastery at the present level.

3. *Sequence of program content* - The content should be clear and logical. The program should not move from the concrete to the abstract and back again, or from the familiar to the unfamiliar. It is also important to make sure that no steps are missing when a process is being explained. For example, when using a math program, a special needs student might not understand that 5 × 7 is the same as 7 × 5. For many special needs students, structure and logic are essential for learning to take place. When looking at simulation programs it is very important to check their structure. Some programs may require a high level of critical thinking and application skills. This may frustrate some special needs students who may need more basic software to begin with.

4. *Feedback system* - The feedback in a program should provide positive reinforcement and offer assistance when incorrect answers are recorded by the student. The feedback that a student receives should also be provided at appropriate times. The program should not make it fun to be wrong. The number of times a question can be missed before a correct answer is given is something to be aware of. Sometimes the number of incorrect responses allowed can be established by the teacher. This is helpful when individualizing instruction.

5. *Appropriate use of program* - A variety of items should be considered: (a) technical content of the program, (b) capacity to incorporate the software into the vocational curriculum, (c) concise presentation of content, (d) matching of program with individual learning styles, and (e) quality and quantity of interaction.

The technical information presented in the program should be accurate and up-to-date. Incorrect or outdated information will confuse rather than enlighten students. The information should also be applicable to actual working situations. Concrete examples of abstract concepts should be provided to make the learning more meaningful.

A teacher should never acquire a software package just to have something for students to use on the computer. The software should fit into the curriculum and be relevant to the topics discussed in the classroom. The package should have a long life in a classroom where it can be used repeatedly.

The appropriate use of a program with an individual's learning style is very important. The presentation of text should be near or at the level of the user. The program should be able to operate at different difficulty levels, depending on the learner. The program should also cater to the best learning style of the user. Programs with numerous graphics and small print may not be appropriate for students with low reading levels or visual perception problems. Sound may not be appropriate if it distracts other students. The program should utilize the previous learning experiences of students and should not require them to do things that are beyond their motor, cognitive, or social development level.

The program should actively involve the student in the learning process and allow ample opportunity for student response. The program should not be a totally passive experience for the learner. The text should be clear and easy to read. This includes the number of lines on the screen at one time, and the number of characters in each line. Some students, especially visually handicapped students, may need text written in large print. If graphic displays are within the program they should be easy to understand and used at appropriate times.

6. *Documentation of software* - The documentation of the software package includes written material that is read before using the program and instructions contained on the disk. The written documentation should identify any previous learning necessary to run the program. It should also list any pre-program or post-program activities that would be beneficial to the student. It should be easy to read and understand.

The documentation explaining how to run the program should be well organized and provide many examples. It should list any technical information that will be needed to run the program as well as error messages that might occur and their meaning. This documentation should specify to teachers the possibilities they have to individualize the program. The instructions should be clear enough so that teachers with a minimum of computer knowledge can be successful. The documentation should specify whether additional training might be needed to run the program, such as training in the use of any special peripherals.

Figure 8.23 shows an analysis sheet that can be used in selecting computer software for use with special needs learners.

Modifying Existing Instructional Materials

Many times vocational teachers do not have an opportunity to order materials that have been developed with special needs learners in mind. In this case, modifying existing materials may be necessary.

Specific modifications may have to be made for certain learning problems. For example, hearing-impaired

Figure 8.23

SOFTWARE ANALYSIS FORM

Evaluator ______________________ Date ______________________

I. PROGRAM INFORMATION

Name of program ______________________ Catalog number (if applicable) ____________
Cost ____________ Copyright Date ____________ Vendor name ____________
Vendor address ______________________ Vendor phone ____________
Preview policy ______________________
Hardware required (brand, model of computer) ____________ Memory required ____________
Reading level ______________________ Math level (if applicable) ____________
Minimum time to use program (length of operation) ______________________
Content area ______________________ Target population ____________
Brief description of purpose and content ______________________

Use of program

____ Instructional Purposes
____ Problem Solving
____ Drill/Practice
____ Simulation
____ Tutorial
____ Diagnostic/Prescriptive
____ Instructional Game
____ Other: ________

Instructional Grouping

____ Individual Use
____ Small Group Use
____ Large Group Use

	Yes	No	N/A	Notes
II. TECHNICAL QUALITY				
1. Program is compatible with available hardware				
2. Individual can operate program independently (with demonstration, as needed)				
3. Program will continue running to completion regardless of learner response				
4. The initial cost is reasonable for the intended use of the program				
5. The pace of presentation is relevant to student's individual learning style(s)				
6. Program allows for repeated and/or prolonged use in the curriculum				
7. Teacher's instructions are concise and well-organized				
III. INSTRUCTIONAL DESIGN				
1. Goals and objectives of the program are specified				
2. Content is accurate and technically correct				
3. Information is presented in an up-to-date sequential format				
4. Information relates to the vocational curriculum				
5. Graphics are used appropriately				
6. Graphics, color, and sound are effective				
7. Size of print and spacing are appropriate				
8. Rate of presentation can be controlled by learner or teacher				
9. Reading and math levels are appropriate for learners using the program				
10. Technical terms are identified, defined, and reinforced				
11. Program format and operation relate to student learning styles				
12. Amount of information presented at one time is adequate				
13. Learner interaction is built into the program				
14. Learner response are reinforced appropriately				
15. Feedback to learners is motivating				
16. Program content promotes equity (sexual, racial, cultural)				
17. Evaluation of learner				

Figure 8.23 continued

IV. ANALYSIS

1. Program Strengths:

2. Program Limitations:

3. Recommendation

_____ Use program as it is _____ Program inappropriate _____ Use program with modifications (specify)___________

4. Potential Use:

---

learners may need simplified written versions of cassette tapes and other audio materials, an interpreter or tutor to relate verbal information, or captioned filmstrips, charts, and visuals. Visually handicapped learners may need to have printed material converted into braille or large type, frequently used material put on cassette tapes or records, support services such as readers and interpreters, or special equipment such as electronic scanning devices or extra lighting equipment.

Physically disabled learners may need to have a weight clamp developed to help them to hold objects, papers taped to the desk or work table to prevent them from dropping on the floor, or laminated papers to make it easier for them to handle.

Individuals with learning disabilities, academic disadvantages, emotional problems, or mental handicaps may need to have information kept at an appropriate reading level, written and spoken material kept brief and simple, visuals and audiovisuals or verbal responses to questions and tasks asked in print.

Kay (1980) provides the following tips for rewriting materials:

1. Read the article or textbook passage and jot down the main ideas. This will help keep your rewritten version short and to the point. If you attempt to "translate" every work and idea, your written version will be even longer than the original and more grueling for the student to read.

2. Look over the main ideas, checking those you especially want the students to get from reading the article. This step will help you focus on why you want this particular article read, and it will help you keep the passage short and to the point. It can also help you identify related assignments that can reinforce these main ideas.

3. Make a list of the specialized vocabulary and important concepts that are difficult. Include this information in a study guide or cassette presentation and present it to the students before you present the revised reading materials.

4. Follow some of these rules:
   a. Use simple words; avoid multi-syllable words whenever possible.
   b. Use words that are easily sounded out.
   c. Use common nouns.
   d. Underline proper names. Alert students to these names before-hand.
   e. Use simple sentence construction and present tense verbs as much as possible.

5. When rewriting materials simplify in terms of:
   a. length of paragraphs
   b. complexity of paragraphs
   c. format
   d. placement of page.

6. When you've finished writing the materials, type it with the largest type available. Leave wide margins. Encourage students to use this space for notes or questions.

Adaptation usually takes less time than rewriting. Some general techniques that will help vocational teachers and support personnel adapt to instructional materials include the following:

1. Prepare a vocabulary list of essential technical terms and provide meanings written at a basic reading level. A glossary can be used by support teachers to reinforce the vocational vocabulary development.

Figure 8.24 shows a Technical Terms Tabulation Sheet that can be used by the vocational teacher and resource personnel to teach necessary technical terms to special needs learners.

Figure 8.24

TECHNICAL TERMS TABULATION SHEET

Name ______________________ Text/Reference ______________________
Date ______________ Chapter/Section ______________ Pages ______________

	Application in Text					Teaching Strategies						
Vocabulary Terms	Defined in text content	Illustrated	Included in index	Included in glossary	Included in review questions	Teacher lecture	Teacher demonstration	Word lists	Puzzle or game	Written assignment	Computer exercise	Comments
Wheel alignment						X	X					Demonstrate
Stability	X					X		X				Illustrate with transparencies
Ball joint	X	X				X	X	X				Show actual ball joints
Spindle						X	X	X				Show actual spindle
Toe-in	X	X	X		X	X	X	X				Show with transparencies
Toe-out	X	X	X		X	X	X	X				Show with transparencies
Caster	X	X	X		X	X	X	X				Show with transparencies
Camber	X	X	X		X	X	X	X				Show with transparencies
Steering axis inclination angle	X	X	X		X	X	X	X				Chalkboard drawing
Steering knuckle	X		X			X	X	X				Show actual knuckle
Elongated holes	X					X	X					Chalkboard illustration
Control arms	X	X	X			X	X	X				Show actual control arms
Shims	X	X	X			X	X	X				Show shims
Visualiner	X	X	X			X	X					Audiovisual presentation
Lite-a-line	X	X	X			X	X					Audiovisual presentation
Tie-rods	X		X			X	X	X				

2. Develop smaller units of instruction so that success will occur within a reasonable length of time. This improves learner self-concept and motivation.

3. Break essential tasks down into a step-by-step progression of instructions.

4. Reorganize and sequence unit or module tasks into a logical order by chaining them together.

5. Translate important information into graphic aids by representing the printed words by (a) charts, (b) graphs, (c) maps, (d) illustrations, (e) mock-ups, and (f) models.

6. Create taped versions of written materials.

7. Convert printed information to audiotape.

8. Develop written versions of taped materials.

9. Develop a cut-and-paste revision of existing text material by cutting out only the necessary portions from photocopies of pages and pasting them on separate sheets of paper. In this manner, sequential units can be arranged, additional headings can be inserted to help in organizing and retaining ideas, and distractions that are not essential can be removed (e.g., complicated charts, illustrations). The revised product

should be photocopied for use with other learners.

10. Main ideas on the printed page can be highlighted with a felt-tip pen or underlined.

11. Nonessential information can be deleted from the printed page with a dark magic marker.

12. Make large print versions of regular materials.

13. Prepare organization aids for learners to use as they review instructional materials. They can assist in putting content in a logical sequence for learning and retaining relevant information. Examples of these aids include (a) pretests, (b) performance objectives, (c) outlines, (d) key questions or study guides, (e) chapter, unit, module, or section summaries, and (f) posttests.

Figure 8.25 shows a Text Review Evaluation Sheet that can be used by the vocational teacher, support personnel, and special needs learners when reading a unit, chapter, or module.

14. Always check the reading level of revised materials using a standard readability formula.

The following are some items to consider and include in revising instructional materials.

1. related vocational vocabulary meanings;
2. vocabulary meanings;
3. instructional objectives;
4. appropriate reading levels for the students;
5. student goals;
6. periodic self-assessment checks;
7. appropriate diagrams, illustrations and examples;
8. appropriate activities to reinforce learning concepts;
9. system of feedback regarding student progress;
10. appropriate time periods for the student to use the material;
11. clear and easy-to-follow organization of material/information;
12. self-paced materials;
13. instruction broken into reinforcing small

Figure 8.25

TEXT REVIEW EVALUATION SHEET

Vocational Program ______________________________

Teacher ______________________________

Date ______________________________

Course ______________________________

Text/Reference ______________________________

____

Chapter/Section ______________________________

Pages ______________________________

Major Points/Concepts

Basic parts of two-stroke engines
Operation of two-stroke engines

New Terms

Bypass port
Loop-scavenged
Reed valve
Rotary valve
Transfer port
Two-stroke-cycle engine
Transfer port

Pictures and Illustrations

Picture of two-stroke engine, p. 52
Illustration of two-stroke engine operation, pp. 52–54
Picture of cutaway of a two-stroke engine, p. 54
Picture of reed plate with four reed valves, p. 55
Picture of two-stroke main bearings, p. 55
Picture of crankcase for a two-stroke-cycle engine, p. 55
Picture of exhaust ports, p. 55
Picture of cylinder head, p. 56
Picture of pistons, rods, rings, pp. 56–57
Picture of crankshaft, p. 56
Picture of connecting rods, p. 58
Drawings of loop-scavenged engine, p. 58

Content Outline: (Topics, sections)

I. Basic parts
  A. Exhaust part
  B. Intake part
II. How it works
III. Two-stroke-cycle engine parts
  A. Reed valve
  B. Crankcase and main bearing
  C. Cylinder and block
  D. Cylinder head
  E. Crankshaft
  F. Piston
  G. Piston ring
  H. Connecting rod and piston pin
IV. Loop-scavenged two-stroke engines
V. New terms
VI. Self check
VII. Discussion

Learner Requirements (Study skills, abilities)

7th grade reading skills
Ability to understand drawings and pictures
Ability to take notes

steps/intervals;

14. hands-on learning activities included to reinforce content;
15. active involvement with learner (e.g., opportunities for response and feedback, opportunities for success).

SUMMARY

Curriculum modification is the tailoring of all the experiences and activities in pursuit of occupational preparation under the direction of a school to meet the unique needs of the individual student. One of the important steps in curriculum modification is to make certain that goals established for special needs learners in vocational programs are realistic. An effective method to establish goals that are appropriate for a specific learner is to have the vocational teacher identify pertinent information about what will be taught in the program, necessary requirements for program completion, multiple exit points or job titles for which a learner can prepare in the vocational program, and entry-level competencies expected by employers for each of the identified exit points.

Several areas should be taken into consideration in order to establish a favorable learning environment that will allow special needs learners to experience success. These areas include (a) student self-concept, (b) motivating students, (c) classroom and laboratory organization, (d) classroom management, (e) development of positive peer relationships, and (f) safety considerations.

Learning styles refer to an individual's most efficient and effective method of learning. It involves how an individual works on a task and incorporates both the procedures and behaviors that are involved. Individuals use a variety of techniques when taking in information, interpreting the content, and drawing conclusions about what they have learned. Each individual's learning style should be matched with an appropriate instructional format. In order to identify appropriate teaching strategies to meet the needs of handicapped and disadvantaged students, it is also important for teachers to analyze the teaching styles they use most frequently and feel comfortable with.

Instructional materials should stimulate learner interest, motivate individuals to learn, and help them achieve realistic objectives. Using a variety of different types of instructional materials is often critical to the success of special needs learners enrolled in vocational education programs. These materials require careful analysis before being selected or revised. The characteristics of the materials (e.g., reading level) should be compared with the abilities of each learner who will be using them.

SELF ASSESSMENT

1. Why are entry and exit skills and multiple exit points for your program important to identify in relationship to special needs learners?
2. Why is student self-concept crucial to successful participation in a vocational program?
3. What are some techniques that you can use to motivate special needs learners?
4. What are some general guidelines for positive classroom management?
5. What techniques can be implemented in your classroom and laboratory that will foster the development of positive peer relationships?
6. What safety considerations should be addressed when working with special needs learners in your vocational program?
7. What accessibility considerations should be addressed in your laboratory and classroom? What modifications may have to be made for special needs learners so that they can successfully participate in and complete your vocational program?
8. What are some important subareas of learning?
9. What types of information should be collected in order to determine an individual's preferred learning style?
10. What is cognitive style mapping?
11. What are learning style inventories? What information do they provide?
12. What are readability formulas? How are they used? What information do they provide?
13. What techniques can be used in your program to assist learners with reading deficiencies?
14. What points should be considered when evaluating and selecting instructional materials for special needs learners?
15. What points should be considered when evaluating and selecting computer software programs for special needs learners?
16. What are some tips to keep in mind when revising instructional materials for special needs learners?

ASSOCIATED ACTIVITIES

1. Identify the entry-level skills necessary for learners to develop to successfully participate in your vocational program.
2. Identify the exit skills necessary for learners to develop to successfully complete your vocational program.
3. Contact support personnel in your school or district to establish classroom management techniques

that are appropriate for the special needs learners enrolled in your program.

4. Organize techniques in your classroom and laboratory that will foster the development of positive peer relationships.

5. Develop a safety profile to be used in your program for all students.

6. Analyze your classroom and laboratory to determine barriers that may interfere with accessibility. Work cooperatively with others in your school to help overcome these barriers.

7. Have students enrolled in your program complete a learning styles inventory, analyze the results, and use the information to organize classroom and laboratory activities.

8. Use an appropriate instrument to determine your teaching style. Match this information with the identified learning styles of learners enrolled in your program.

9. Determine the reading level of materials used in your curriculum using an appropriate readability formula. Identify the reading level of learners enrolled in your vocational program. Match this information accordingly.

10. Analyze your instructional materials using an appropriate set of guidelines to determine what modifications may be needed to meet the needs of special needs learners.

CASE STUDY: EDWARD'S STORY

Edward is a learning disabled student enrolled in a carpentry and cabinetmaking program. Edward is also enrolled in a special education program. He has above average intelligence as indicated on his current psychological examination results. However, because of a visual perception problem he has trouble in reading and math.

Edward is enthusiastic at the start of every task or assignment but easily becomes frustrated and gives up. This habit is probably due to the many failures he has had in the past. He has made several close friends in the carpentry and cabinetmaking program and works very well with this small group of students. He is still shy and insecure with other members of the class.

The program instructor has been working closely with the special education teacher. They have both actively participated on the IEP planning team. Edward's career goal is to work either in a custom cabinet shop or in a furniture manufacturing factory. With the combined assistance of both teachers, Edward has successfully completed units in blueprint reading, use of hand and power tools, machine tool operation, and frame and form construction. He has required additional assistance in several areas that have taken him longer to complete, including related mathematics, door hanging, and window setting.

The special education program has helped to modify these sections of the curriculum. The written materials have been reinforced verbally and a variety of hands-on activities have been developed to allow for direct application of skills demonstrated in class. The program instructor has allowed for modification of assignments and activities to allow Edward to learn through his strongest learning style. The special education teacher also gives all tests to Edward by reading test questions out loud and taping the responses. The program instructor then listens to the tape and evaluates the answer.

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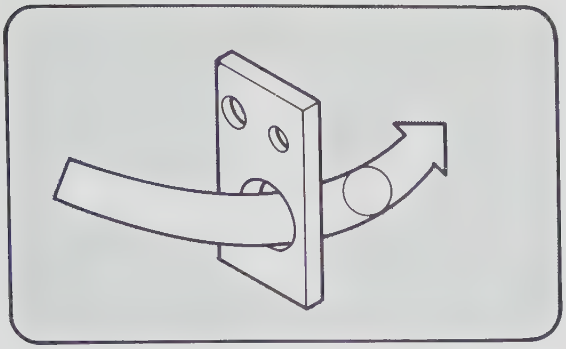


9

Special needs learners represent a diverse population of learners who possess different learning styles, abilities, and goals. They cannot all learn at the same rate or through the same instructional mode, method, or technique. The instructional methods and techniques vocational teachers and support personnel use to present program information to special needs learners may make the difference between a successful experience or a failure. The individual abilities, needs, learning styles, and occupational goals of special needs learners must be considered in designing the instructional program and choosing ways in which instruction will be delivered.

Vocational teachers can experience success with special needs learners by using a variety of instructional methods, techniques and approaches to delivering instruction, particularly if they engage in cooperative planning activities with other personnel familiar with these students. Through cooperative planning efforts, important considerations such as individual differences in learning style and learning rate can be addressed, and appropriate instructional strategies can be identified to facilitate instruction for a special needs learner.

This module presents information on a variety of instructional strategies, methods, and techniques that can be used by vocational teachers to accommodate the learning styles and abilities of special needs learners.

OUTLINE

- General Considerations
- Instructional Technology Overview
- Instructional Techniques for Special Needs Learners
  - Demonstrations
  - Field Trips and Job Site Visitations
  - Flexible Grouping
  - Individualized Instruction Activities
  - Media Aids
  - Projects
  - Simulation and Role-playing Activities
  - Student-Teacher Contracts
  - Task Analysis
  - Team Teaching
  - Tutors
  - Computer Applications for Instruction
- Remedial Reading Techniques
  - Remedial Reading
- Remedial Math Techniques
- Summary
- Self Assessment
- Associated Activities
- Case Study
- Related Activity
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Discuss the nature of individual differences among students and explain why a variety of instructional techniques should be utilized with special needs learners.
2. List a number of different instructional techniques that can be used to meet the needs of handicapped and disadvantaged learners enrolled in vocational programs.
3. Describe how these various instructional techniques can be incorporated into your vocational program.

CONCEPTS

Demonstration - An activity in which the teacher or another person uses examples, experiments, and/or other actual performances to illustrate a principle or show others how to do something.

Field trip - An educational trip to places where students can study the content of instruction directly in its functional setting.

Grouping - A process in which members of the class working cooperatively, rather than individually, formulate and work toward common objectives under the guidance of one or more leaders.

Programmed instruction - Instruction utilizing a workbook or mechanical and/or electronic device that has been ''programmed'' to help students attain a specified level of performance by (a) providing instruction in small steps, (b) asking one or more questions about each step in the instruction and providing instant feedback about the answer, and (c) enabling students to progress at their own pace.

Project - A significant, practical unit of activity having educational value aimed at one or more definite goals of understanding and involving the investigation, and solution of problems.

Role-playing - An activity in which learners and/or teachers take on the behavior of a hypothetical or real personality in order to solve a problem or gain insight into a situation.

Shadowing - Making arrangements for a student to spend time on the job with a worker in a particular occupational area.

MODULE 9

INSTRUCTIONAL TECHNIQUES FOR SPECIAL NEEDS LEARNERS

GENERAL CONSIDERATIONS

Special needs learners represent a diverse population of learners who possess a variety of different learning styles. They cannot all learn at the same rate or through the same instructional techniques. The characteristics, abilities, interests, learning styles, and the needs of each student must be taken into consideration when planning classroom and laboratory instruction.

The methods vocational teachers use to present program information to special needs learners may make the difference between success and failure. One instructional technique will not meet the unique needs of every handicapped and disadvantaged learner enrolled in a vocational program. Therefore, a variety of techniques should be used to address the individual differences of these students.

Each special needs learner will have individual abilities, needs, learning styles, and occupational goals. These should be considered in designing the instructional program and identifying the ways in which instruction will be delivered. It is extremely helpful for vocational teachers to work cooperatively with other personnel who are familiar with appropriate instructional techniques for specific special needs students.

People learn:
1. 1% by taste
2. 1½% by touch
3. 3½% by smell
4. 11% by hearing
5. 83% by sight.

People remember:
1. 10% of what they read
2. 20% of what they hear
3. 30% of what they see
4. 70% of what they say
5. 90% of what they say as they do something.

Vocational teachers can experience success with special needs learners by utilizing a variety of approaches to delivering program instruction. A number of different techniques are described in this module. The point should be made that not every instructional technique presented here can be used successfully with every special needs learner. It will require a degree of flexibility and experimentation on the part of vocational instructors to determine which techniques best meet the needs of each handicapped or disadvantaged learner. Cooperative planning with other personnel who are familiar with the student will be very helpful in selecting and utilizing appropriate instructional techniques.

Some initial considerations should be addressed by vocational personnel when selecting instructional techniques to be used with special needs learners. These considerations include such important concerns as: (a) individual differences among students' pace of learning, (b) ability levels of the student (e.g., reading level, math level, vocational assessment results, objectives identified in the individualized education program [IEP] for handicapped students or the individual prescribed program [IPP] for disadvantaged students), (c) preferred learning style(s) of the student (auditory, visual, psychomotor, or a blend of these styles), and (d) difficulty of subject matter to be covered (e.g., readability level of books and materials, related terminology, level of related math involved).

INSTRUCTIONAL TECHNOLOGY OVERVIEW

Take a few minutes to answer the following questions about your philosophy of teaching and/or your teaching practices in classroom and laboratory situations. Indicate in the following checklist how often you follow each of these instructional practices.

It is obvious that no teacher can consciously use all of these techniques at the same time. However, if the majority of answers are "sometimes" or "never," this checklist may be used to review some possible methods that can help to better meet the needs of all students.

INSTRUCTIONAL TECHNIQUES FOR SPECIAL NEEDS LEARNERS

Demonstrations

The demonstration method is a very effective technique to use to introduce a new skill to special needs

Instructional Practice	Often	Sometimes	Never
1. Treat each learner with the same degree of fairness			
2. Introduce learners completely to your classroom and laboratory procedures and expectations			
3. Encourage learners to develop a sense of responsibility and pride in themselves and their work			
4. Deliver instruction and assignments in a nonthreatening manner			
5. Check to make sure that all learners are productively involved in classroom and laboratory activities			
6. Provide flexible pacing of instruction and assignments to meet the needs of individual learners			
7. Provide frequent feedback to learners concerning their work in progress			
8. Utilize positive reinforcement at all times			
9. Start where each learner is relative to teaching and making assignments			
10. Present material in small distinct steps that are appropriate for learners in the class			
11. Attempt to maintain learner interest by matching instructional techniques to the identified learning style(s) of students			
12. Involve other personnel in a team approach to teaching			
13. Refer learners who seem to be having difficulty for assessment and/or remedial assistance			
14. Introduce appropriate role models for learners (especially handicapped, disadvantaged, and limted English-speaking students)			
15. Incorporate necessary resource personnel into your instructional plans (e.g., interpreters, volunteers, bilingual tutors)			
16. Make appropriate substitutions in assignments to meet learner needs and strengths (e.g., substitute a project for a written report)			
17. Allow each learner enough time to accurately and completely finish an assignment			
18. Be certain that the learner has mastered one step in a process before proceeding to the next step			
19. Provide learners and support personnel with course syllabus and/or outlines of planned instructional content and activities			
20. Provide a variety of aids in assigning reading material (e.g., provide enough time for silent reading assignments, high-interest low-vocabulary reading materials, reading simultaneously with a taped version, listening to teacher/peer tutor/volunteer/resource person read aloud, listening to a paraphrased version of the material and following with charts, printed material, or diagrams)			

Instructional Practice	**Often**	**Sometimes**	**Never**
21. Organize instruction into self-contained units, modules, mini-courses			
22. Provide for in-class remediation (spend small amounts of time with individual students addressing problem areas requiring remediation when students are working on small-group or laboratory activities)			
23. Assignments to be completed outside the classroom/laboratory are designed to provide the necessary remedial help (e.g., community activity associated with a vocational student organization project, shadowing a worker on the job, involving parents in the remediation and reinforcement process)			
24. Encourage all learners, especially special needs learners, to become actively involved in vocational student organization activities (leadership development, interpersonal relationship skills, self-concept)			
25. Integrate a variety of instructional activities in your classroom and laboratory planning, including: a. large group interaction b. small group interaction c. individualized learning packages d. computer-assisted instruction (CAI) e. self-paced multimedia instructional packages (e.g., programmed learning) f. peer tutoring (classroom activities, laboratory projects, out-of-class assignments) g. projects (classroom, laboratory, home) h. practical, hands-on activities i. one-on-one instruction with students, as necessary j. acceleration activities (e.g., independent study, assignments with outside resources) k. activities to develop problem-solving abilities (e.g., discovery learning) l. task analysis (including the further breakdown of available tasks into subtasks and elements) m. flexible grouping n. visual aids (e.g., charts, posters, illustrations, models, transparencies) o. audiovisual aids (movies, slides, filmstrips, microcomputer software, video, radio, records) p. guest speakers q. "exposure" activities (e.g., field trips, interviews, shadowing activities) r. student-teacher contracts s. demonstrations t. simulation and role-playing activities u. team teaching			

learners. By showing students how to perform a task while explaining the procedure, the special needs learners thereby use more than one sense and learning mode at the same time. They can listen to the instructor while observing the proper performance steps of the task or skill being demonstrated. Usually an activity or laboratory assignment will follow which allows students to practice what they have seen and heard.

In preparing a demonstration, the vocational teacher should identify the sequence of steps that will be necessary to fully display the specific skill, task, or procedure. Tasks should be broken down into small steps to avoid confusing or frustrating students. Sufficient time should be set aside for the demonstration without attempting to present too much new material at one time. A demonstration can be organized into several sessions if necesary.

Tips that may be useful to vocational teachers in preparing a demonstration include the following:

1. Arrange all supplies, materials, tools, and equipment that will be needed during the demonstration.
2. Introduce the demonstration by reviewing previously taught information and/or skills that are relevant to the demonstration.
3. Introduce and discuss any technical terms that are relevant to the demonstration.
4. Emphasize relevant safety practices during the demonstration.

5. Demonstrate the manipulative skill or task in a way that closely resembles the actual work environment where the skill or task will be performed.

6. Use visual materials (e.g., charts and diagrams) whenever possible to reinforce the performance steps being demonstrated.

7. Question students periodically during the demonstration to be certain that they are able to follow and understand the performance steps being demonstrated.

8. The demonstration may have to be repeated for students who did not grasp fully all of the details, and in some cases, broken down into smaller steps and presented more slowly.

9. Assign a related activity following the demonstration (The Center for Research in Vocational Education, 1977).

Some specific considerations to keep in mind regarding special needs learners when preparing a demonstration include the following:

1. Visually handicapped learners may need to stand close to the teacher while the demonstration is taking place and/or be allowed to "feel" the various performance steps as the teacher demonstrates them.

2. Hearing-impaired students may need to stand close to the teacher while the demonstration is taking place and in some cases be provided with the services of an interpreter.

3. Some special needs learners (e.g., mentally handicapped, learning-disabled, emotionally disturbed/behavior-disordered, and disadvantaged) may profit from hearing and seeing the demonstration more than once if the teacher will tape-record and videotape the session.

4. Special considerations may have to be made for specific physical disabilities during the demonstration and/or the related follow-up activity.

Field Trips and Job Site Visitations

Many special needs learners have had little or no first-hand exposure to specific occupations that are available in the community. Field trips or job site visitations can provide students with an opportunity to observe workers on the job, allow them to become familiar with the specific duties involved in jobs related to the vocational program, and provide information about possible exit points available through the program.

Field trips and job site visitations can be arranged for the entire class, small groups of students, or on an individual basis. They can be used as (a) career exploration activities, (b) incentives or rewards for completion of program assignments and units, (c) individual, group, or class projects, (d) class reports and/or (e) preplacement exposure experiences. Observations made during these visitations can be valuable in relating classroom and laboratory activities to the world of work.

One particular method that allows students to experience field trips and job site observations is called *shadowing*. This method involves making arrangements for a student or small group of students to spend time on the job with a worker in a particular occupational area. By acting as a "shadow," students gain an insight into the actual work environment and work tasks associated with the job. For students who have never before observed workers on the job, this experience offers them a realistic look into the world of work and can assist them in making appropriate career decisions. Sources of workers to be used in this technique include employers who have hired former graduates and advisory committee contacts.

Vocational teachers can use this teaching technique to develop leadership skills and a sense of responsibility for special needs learners by including them in the various stages of planning field trips, job site visitations, and shadowing experiences. They can be given responsibility for contacting the business or industry, making arrangements with the employer and/or co-workers, planning for appropriate transportation services, obtaining permission from school officials, and taking leadership responsibility for preparing class reports, group discussions, and follow-up activities.

The Center for Research in Vocational Education has developed a checklist for vocational teachers to use in planning field trips. See page 305.

Flexible Grouping

Grouping can be an effective way for vocational teachers to individualize classroom instruction and laboratory activities for special needs learners. This method consists of organizing students into various size groups according to the objective of the lesson or the nature of the activity. Grouping allows the program teacher to arrange classroom and laboratory experiences so that special needs learners are integrated and participating with their peers. It can also be used as a technique to provide remedial assistance by forming small groups of students in need of academic or technical assistance. Special activities students can also be grouped according to ability level or the level that they have achieved on a certain unit, module,or assignment. Another grouping arrangement option is to organize students according to interests. Perhaps the most useful grouping approach is called flexible group-

Before the trip, the teacher:	Yes	No
1. identified an objective that lends itself to the use of a group field trip		
2. identified community resources that would help to attain the objective		
3. explained to students how the trip would help attain the objective		
4. planned an agenda that was feasible and convenient to carry out		
5. involved students in planning specific on-site activities		
6. explained student individual responsibilities during the trip		
7. provided background information on experiences that prepared students for the trip		
8. advised students about clothing, grooming, money, and other personal needs		
9. explained rules of conduct for the trip to students		
10. provided information to assist students during the trip		
11. prepared a written request for parental consent		
12. made provisions for the special needs that students might have (e.g., accessibility considerations for visually impaired or physically handicapped students)		
During the trip, the teacher:		
1. checked attendance against the trip roster		
2. was available when students needed information or assistance		
3. directed student attention to the objective(s) of the trip		
4. expressed and/or helped students express thanks to all those who made the trip possible		
After the trip, the teacher:		
1. helped students summarize what you learned during the trip		
2. helped students evaluate the trip in terms of of your progress toward the objective(s)		
3. provided follow-up activities to clarify, reinforce, or extend what students learned during the trip		

(Direct Field Trips, 1977)

ing. Teachers using this technique form different types of grouping arrangements in different situations so that all students in the class learn to work together in a variety of situations.

Grouping has several advantages for both the vocational teacher and the special needs learners:

1. It allows the teacher more time to work among students in the class rather than having to spend a great deal of time with one or two students.

2. It allows the teacher to individualize instruction, tasks, and assignments to meet the needs of students in a specific group.

3. It provides special needs learners with an opportunity to work with peers and establish positive interpersonal and working relationships with them.

4. It serves as a motivating factor for special needs learners because the individualized nature of the group work does not threaten or frustrate them and allows them to work at their own pace through their strongest learning style.

5. It allows another effective instructional technique, peer tutoring, to develop between special needs learners and their peers.

6. It allows teachers to arrange for instruction for the entire class, small group discussions, project groups, and small remedial sessions so that instruction will be diversified and more meaningful for all students enrolled in the program.

7. It allows the teacher to meet the learning needs of specific special needs learners in a small group through the use of media, supplementary services, and instructional resources.

8. It allows the teacher to modify the task or assignment for a small group of students with specific needs, as in the case of learners who have a physical disability.

Individualized Instruction Activities

Individualized instruction is a method of instruction that is tailored to meet the particular needs of each student and allows the vocational teacher a variety of alternatives in delivering program instruction. This method is particularly useful in working with special needs learners because it allows them to work at their own pace using resources, media, and materials that will assist them in learning.

This approach does not require that vocational teachers "water down" course objectives or compromise on proficiency skills necessary for program completion. It does, however, mean that vocational teachers should work closely with other school personnel to gain as much relevant information about each special needs learner as possible so that an appropriate individualized instruction program can be established and implemented. This information should include such details as the student's reading level, math level, other relevant abilities, interests, occupational goals, and preferred learning style. In other words, individual differences among students must be taken into consideration in planning instruction. For handicapped students, much of this information should be available in the individualized education program (IEP). For disadvantaged students, this information should be documented in an individual prescribed program (IPP).

Individualized instruction can be an effective method of instructing special needs learners because it (a) actively involves the student in the learning process, (b) identifies instructional objectives and criteria for the student, (c) divides the learning task into an appropriate number of specially designed instructional activities, (d) allows the student to complete activities within a range of assessment activities (e.g., hands-on projects, pretests, posttests, checklists, observational forms, and self-checks).

The process of individualizing instruction is shown in the table below. Component steps that are helpful in providing individualized instruction to special needs learners are shown in the flowchart that follows the table.

Individualized instruction can assist the vocational teacher in helping more students in the class rather than spending a great deal of time with one or two special needs learners. By working at their own pace and ability level, special needs students can successfully progress through the task or assignment with a minimum amount of help from the teacher. Many of the reading and writing assignments can be self-checked by the student. This releases the vocational teacher to work with other students. Spot checks, pretests, and posttests can be administered by the vocational teacher, peer evaluator, and/or support staff to help assess student progress.

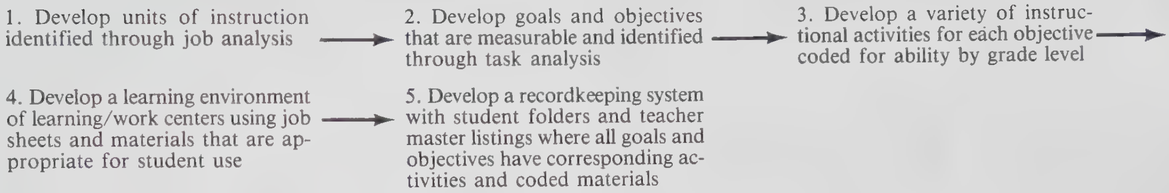
Sequence	Component	Individual(s) Involved
1	Goals and objectives selected	Special needs learner Parent/guardian Vocational teacher Support personnel Peer tutor
2	Pre-assessment (administered and recorded)	Special needs learner Vocational teacher Support personnel
3	Appropriate activities, methods and materials are identified for each specified goal or objective	Vocational teacher Support personnel
4	Component assigned activities are completed by special needs learner	Special needs learner Vocational teacher Support personnel Peer tutor
5	Post-assessment (administered)	Vocational teacher Support personnel Peer tutor

(continues)

(continued)

Sequence	Component	Individual(s) Involved
6	Analysis of post test results is recorded and used to determine next step— a. if performance criteria is met the learner moves on to the next objective and associated activity b. if performance criteria is not met, further instruction and remediation is provided	Vocational teacher Support personnel

Flowchart for Individualized Instruction for Special Needs Learners



1. Develop units of instruction identified through job analysis →
2. Develop goals and objectives that are measurable and identified through task analysis →
3. Develop a variety of instructional activities for each objective coded for ability by grade level →
4. Develop a learning environment of learning/work centers using job sheets and materials that are appropriate for student use →
5. Develop a recordkeeping system with student folders and teacher master listings where all goals and objectives have corresponding activities and coded materials

(Dick, 1982)

There are various techniques involved in the individualized instruction approach. Examples of these techniques include:

1. Units,
2. Modules,
3. Learning activity packets,
4. Learning center activities,
5. Self-paced and programmed instructional materials,
6. Independent and supervised study activities.

An example of an individualized assignment sheet for a task is shown in Figure 9.1.

In designing a program of individualized instruction for use with special needs learners, the following considerations should be addressed by vocational teachers:

1. Individualized instruction experiences can be developed specifically for one special needs learner or for a small group whose members have similar abilities and interests.

2. Even if it takes special needs learners longer to complete required tasks or assignments, they should be given the same credit as other students who complete the work in less time as long as the quality of the completed work meets the standards of the teacher.

3. Specific objectives should be developed and carefully explained to special needs learners before they begin the activity or assignment and should be stated in behavioral or performance terms so that students clearly understand exactly what they are to do.

4. Vocational teachers should determine what previous knowledge and/or skills are necessary for completion of the individualized assignment and make certain that students possess the prerequisite information, terminology, and skills.

5. Special needs students should be aware of the tools, equipment, materials, resources, media, and aids that will be provided to assist them in completing the activity or assignment.

6. Routine and periodic supervision should be provided by vocational instructors while students are working on individualized instruction activities.

7. Criteria for evaluation should be clearly defined and understood before the activity or assignment is started.

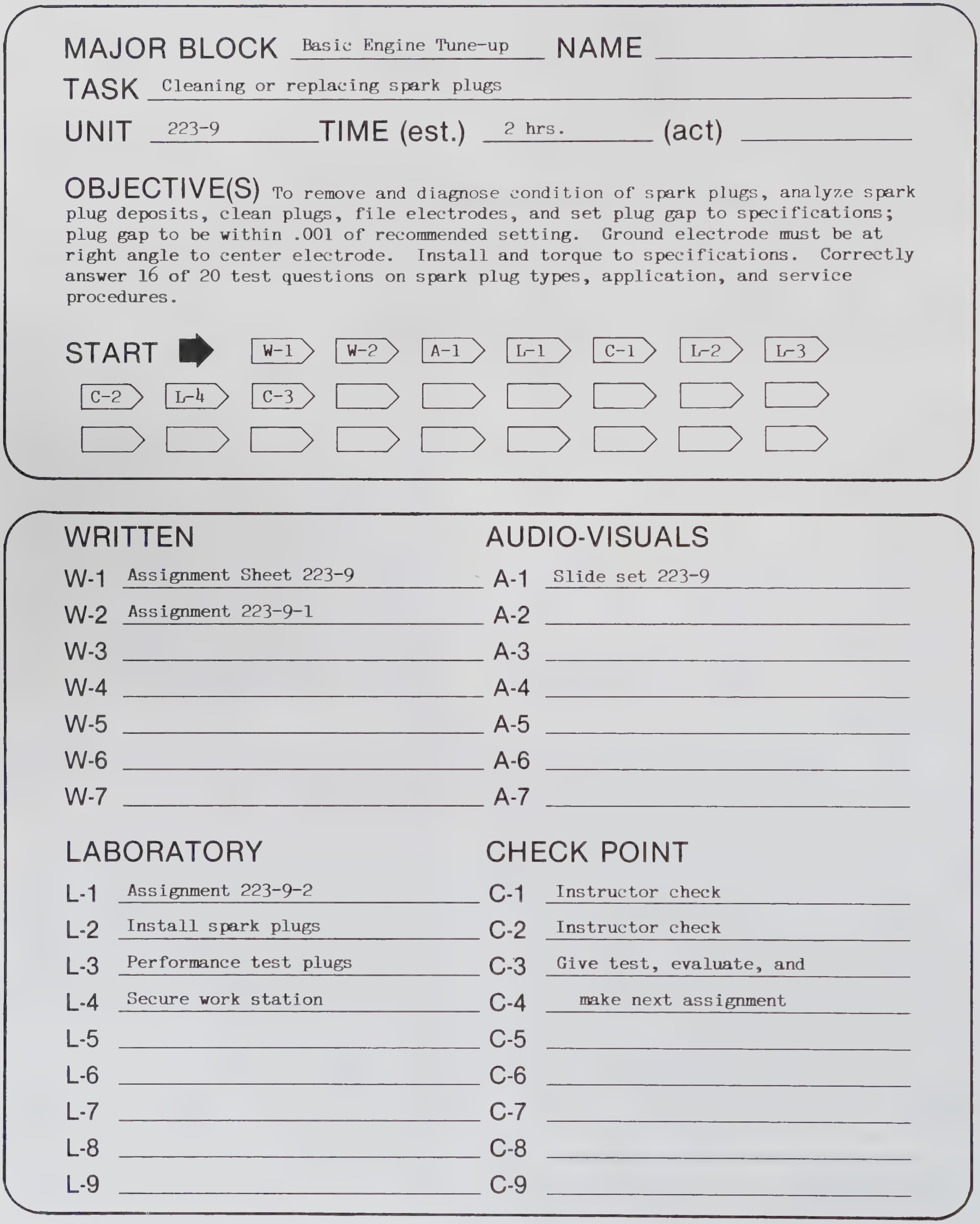
8. The learning environment where individualized instruction is to take place should be flexible and allow for a variety of activities and experiences according to the specific needs of the students.

9. Individualized instruction materials, modules, units, or packets have been developed for many vocational programs, and teachers should contact the State Department of Education, other teachers, local vocational administrators, companies producing commercial materials, and other sources to obtain readily available materials that can meet the specific needs of special needs learners as well as of the vocational program.

Media Aids

Educational media aids can make an important contribution to the teaching of concepts in vocational programs. They can (a) assist the teacher in presenting the proficiency or skill requirements for a specific job, (b) reinforce concepts presented in a classroom, laboratory, or demonstration activity, (c) provide a

Figure 9.1



MAJOR BLOCK Basic Engine Tune-up NAME

TASK Cleaning or replacing spark plugs

UNIT 223-9 TIME (est.) 2 hrs. (act)

OBJECTIVE(S) To remove and diagnose condition of spark plugs, analyze spark plug deposits, clean plugs, file electrodes, and set plug gap to specifications; plug gap to be within .001 of recommended setting. Ground electrode must be at right angle to center electrode. Install and torque to specifications. Correctly answer 16 of 20 test questions on spark plug types, application, and service procedures.

START ➡ W-1 > W-2 > A-1 > L-1 > C-1 > L-2 > L-3 > C-2 > L-4 > C-3 >

WRITTEN		AUDIO-VISUALS	
W-1	Assignment Sheet 223-9	A-1	Slide set 223-9
W-2	Assignment 223-9-1	A-2	
W-3		A-3	
W-4		A-4	
W-5		A-5	
W-6		A-6	
W-7		A-7	

LABORATORY		CHECK POINT	
L-1	Assignment 223-9-2	C-1	Instructor check
L-2	Install spark plugs	C-2	Instructor check
L-3	Performance test plugs	C-3	Give test, evaluate, and
L-4	Secure work station	C-4	make next assignment
L-5		C-5	
L-6		C-6	
L-7		C-7	
L-8		C-8	
L-9		C-9	

vehicle for special needs learners to show what they have learned, (d) provide a valuable source of remedial assistance, (e) provide simulated learning experiences, (f) provide individualized learning experiences, (g) allow special needs students to learn through their strongest style, and (h) add variety to the instructional program.

Specific media aids that can be used to accommodate the individual needs of handicapped and disadvantaged learners include the following:

1. Audiotapes (cassette, reel-to-reel)
2. Films (sound, silent, and/or captioned)
3. Filmstrip/filmloops (sound or silent)
4. Flip charts
5. Models
6. Charts
7. Diagrams
8. Tape recorders
9. Slides (regular and captioned) and projectors
10. Overhead transparencies
11. Educational television (sound and/or captioned)
12. Radio programs
13. Videotapes/videodisks/interactive video
14. Opaque projections
15. Graphs
16. Maps
17. Photographs (student-made, teacher-made, and commercial)
18. Exhibits
19. Bulletin boards
20. Posters
21. Records
22. Audiovisual teaching machines
23. Learning centers equipped with an activity format
24. Computer/television and computer/radio
25. Slide tape presentations
26. Magazines and newspapers
27. Computer software programs

Projects

Projects can be a useful technique in providing special needs learners with an opportunity to develop independent and interpersonal skills. They can also provide vocational teachers with a method of observing and evaluating learner progress. Projects can be done individually or in small groups. Specific projects can be assigned, or they can be selected or developed by the learners. Work on the project can take place in the classroom, in the laboratory, in other areas of the school, at home, in a community environment, or in a combination of these settings. When assigning a project, vocational teachers should make certain that the objectives are clearly stated and understood, as well as the general tasks involved in the project and the specific criteria for evaluation.

Advantages of using such projects to assist special needs learners include the following:

1. They can act as motivating experiences for special needs learners to demonstrate the competencies and skills they have learned in the vocational program.
2. They can help special needs learners to relate the knowledge and skills of the vocational instructional program to practical experiences.
3. They can help special needs learners to develop responsibility in selecting an appropriate project area and/or in actively participating in the planning and completion stages.
4. They allow special needs learners to practice the proper use of machinery, tools, equipment, and raw materials associated with the vocational program.
5. They allow supervision of special needs learners as they progress at their own pace.
6. They allow vocational teachers to evaluate the level and degree of proficiency that special needs learners demonstrate while working on the project as well as the quality of the finished product.

Examples of projects that can be assigned by vocational teachers or developed by special needs students follow:

1. Projects designed for the classroom and/or laboratory:
   a. memo pads (graphic arts)
   b. knurled center punch (machine trades)
   c. tool box (sheet metal fabrication)
   d. battery tester (electronics)
   e. saw horses (construction trades)
2. Projects designed for other areas of the school:
   a. dip molded plastic coin purse (industrial arts)
   b. architectural house plans (drafting)
   c. concrete picnic table and benches (masonry)
   d. computer developed program (computer science)
3. Projects designed for completion at home:
   a. garden plot (horticulture)
   b. plan a home budget (business education)
   c. replace a lamp cord plug (electrical trades)
   d. plan and prepare a meal (food service)
4. Projects designed for completion in the community:
   a. build and install picnic tables at recreational areas (construction trades)
   b. print posters for community fund raising activities (graphic arts)
   c. design a fashion exhibit for the county fair (marketing and distributive education)

   d. alter and repair clothing for the Salvation Army (home economics)
5. Projects designed for completion in a combination of vocational program areas:
   a. build book shelves (cabinetmaking)
   b. replace a light switch (electrical trades)
   c. prepare and serve refreshments (food service)
   d. prepare income tax forms for the public (diversified occupational training)
6. Projects designed by vocational youth organizations:
   a. design and construct a float for school and/or community parades (VICA)
   b. design bulletin board displays and exhibits for special occasions such as National Vocational Education week (FHA)
   c. prepare articles on club activities for publication in the local newspaper (FBLA)
   d. construct concrete mailbox post for citizens in the rural community (FFA)

Figures 9.2a and 9.2b show an example of a project designed for successful participation and completion by special needs learners. This project can be adapted for a wide range of student abilities. More capable students can read the drawing and use appropriate tools to complete the project. Students having difficulty reading drawings, measuring, and using layout tools can complete project pieces using templates provided by the instructor. The project can be completed using hand tools or both hand and power tools, according to the students' abilities. The instructor using this project should construct the project first and make any adaptations to the project to facilitate construction by special needs students.

Simulation and Role-playing Activities

Simulation and role-playing activities can help vocational teachers provide realistic experiences that lend themselves to a specific occupational area and to the world of work in general. This technique is especially relevant to those special needs learners who have never been exposed to job training or employment situations.

Simulation and role-playing experiences:

1. Allow learners to learn and practice appropriate occupational behaviors and skills in a nonthreatening environment without fearing failure.
2. Allow learners to develop interpersonal relationships with their peers.
3. Assist learners to relate the concepts and skills being taught in the vocational program to the world of work.
4. Assist learners in developing appropriate decision-making skills.
5. Provide learners with experiences that will enable them to analyze their own behaviors and reactions and develop appropriate alternatives.
6. Allow learners to exercise their abilities and skills in a situation other than a reading or writing exercise.
7. Provide for constructive criticism and relevant feedback from vocational teachers and peers concerning appropriate reactions to a specific simulation or role-playing situation.
8. Provide structure so that the situation has guidelines to follow.
9. Provide interaction that will promote team learning.
10. Provide learners with a certain amount of control over the events in a situation.
11. Structure learning situations that combine cognitive, psychomotor, and affective elements.
12. Promote the development of problem-solving skills.
13. Provide learners with a realistic situation where they can experiment with a variety of roles without feeling threatened.
14. Provide insight into the "real life" role people play.
15. Introduce learners to the reality of conflict and the need to adjust to different situations, especially those involving other people.
16. Assist learners in developing a feeling of empathy for others.
17. Provide learners with a nonthreatening situation in which to learn how to express their feelings.
18. Provide teachers with an insight into how learners will probably react under similar circumstances.

In creating simulation activities the vocational teacher should follow the following process:

1. State an objective that identifies learner behaviors and learning outcomes from the simulation activity.
2. Prepare a thorough description of the situation to be simulated. This description should be in writing and should include problems, roles, activities, rules, and constraints.
3. Identify the desired format for the simulation. This may include computer-based simulations, role-playing, group-written responses to a scenario, videotaped performances, etc. The nature of the simulation should also be included (e.g., playing a game, practicing a skill).
4. Identify the major activities in which the participants will be involved as well as the sequence in which these activities will take place.
5. Identify the conditions under which the activity will reach closure. There should be a logical point of

Figure 9.2a

MEMO CARD HOLDER

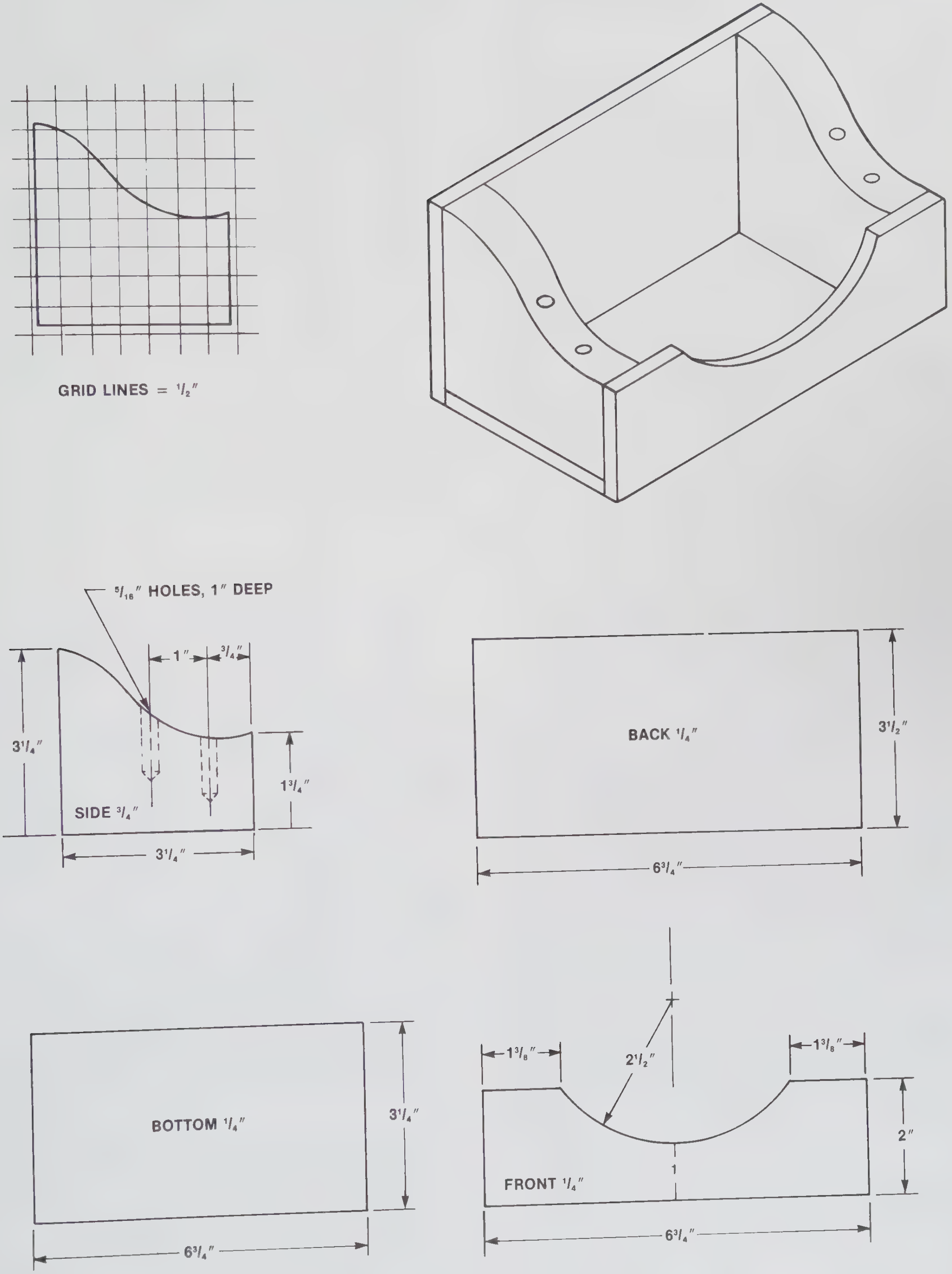

GRID LINES = 1/2"
5/16" HOLES, 1" DEEP
1"
3/4"
3 1/4"
SIDE 3/4"
1 3/4"
3 1/4"
BACK 1/4"
3 1/2"
6 3/4"
BOTTOM 1/4"
3 1/4"
6 3/4"
1 3/8"
2 1/2"
1 3/8"
2"
1
FRONT 1/4"
6 3/4"

Figure 9.2b

PRODUCTION OF A MEMO CARD HOLDER (WOODWORKING)

	TASK	TOOLS & EQUIPMENT	MATERIALS
Sides	1. Obtain ¾″ stock for sides. 2. Lay out and cut two side pieces 3½″ × 3½″. 3. Use template to transfer design shape to side pieces. 4. Cut to size.	Pencil Rule Square Template Vise Coping saw or scroll saw	¾″ stock
Back	1. Obtain ¼″ stock for back. 2. Lay out and cut the back piece 3½″ × 6¾″.	Pencil Rule Square Template Vise Handsaw or scroll saw	¼″ stock
Bottom	1. Obtain ¼″ stock for bottom. 2. Lay out and cut the bottom piece 3½″ × 6¾″.	Pencil Rule Square Template Vise Handsaw or scroll saw	¼″ stock
Front	1. Obtain ¼″ stock for front. 2. Lay out and cut the front piece 2″ × 6¾″. 3. Use template to transfer design shape to front piece. 4. Cut to size.	Pencil Rule Square Template Vise Handsaw or scroll saw	¼″ stock
Pieces to Finished Size	File and sand pieces to finished size.	Pencil Rule Square Vise Double-cut file Single-cut file	Coarse, medium, and fine sandpaper
Assembly	1. Join back to side pieces. Allow ¼″ overlap for bottom piece. 2. Join front to side pieces. Allow ¼″ overlap for bottom piece. 3. Join bottom piece to side pieces. 4. Set brads 1/16″ below surface of pieces.	Hammer Nailset	Glue ⅝″ brads
Drilling Holes	1. Lay out and punch hole centers. 2. Secure in vise or with c-clamp on drill press. 3. Drill holes 1″ deep using ⅛″ bit. 4. Enlarge ⅛″ holes to 5/16″ using 5/16″ bit. Drill 1″ deep.	Pencil Rule Square Awl ⅛″ bit 5/16″ bit Drill stop Vise or c-clamp Hand drill, power Hand drill or drill press	
Finishing	1. Fill brad holes with wood putty. 2. Finish sand project. 3. Apply desired finish.	Putty knife	Wood putty Fine sandpaper Stain, clear Finish or paint

conclusion written into the plan.

6. Plan a feedback mechanism so that learners are not left with a feeling of vagueness about the success or failure of their contributions to the activity.
7. Script out the scenario, role descriptions, and rules for the activity. Be certain to provide enough structure for students to follow.
8. Assemble all materials so that the simulation is not interrupted by students searching for necessary items.

Examples of topical areas that could be used to develop simulation and role-playing activities include (a) preparing for a job interview, (b) getting along with co-workers, (c) reacting to criticism from a supervisor, (d) dealing with customers, (e) reacting to job-related pressure, and (f) displaying appropriate skills in completing a product or process in the laboratory.

In developing simulation and role-playing activities for use with special needs learners, vocational teachers should make certain that learners clearly understand the purpose of the activity and their roles as participants and reactors. Sufficient time should be provided for feedback and discussion following the completion of the activity.

Examples of specific simulation and role-playing activities that can be developed and assigned by vocational teachers to assist special needs learners include:

1. Greeting a customer in a department store.
2. Taking orders from customers in a mail order enterprise.
3. Listening to an irate customer complain about service work and helping them to solve the problem.
4. Introducing a friend or visitor to the class or to fellow workers.
5. Demonstrating how to organize tools and materials for work.
6. Demonstrating how to sell oneself in a job interview.
7. Demonstrating how to take constructive criticism from a job supervisor.
8. Demonstrating the work habits that show initiative and industriousness.
9. Carrying on a conversation with a partron in a cosmetology laboratory.
10. Demonstrating safe work habits in performing a work task.

In preparing special needs learners for the simulation and role-playing activities the following steps are helpful:

1. Orient the learner to the situation by discussing the situation so that the problem is understood.
2. Clearly define the role(s) that the learner will assume.
3. Make certain that the learner feels comfortable in taking part in the activity.
4. Provide the learners who will participate in a simulation or role-playing situation with a short preparation time when they can think through the problem, share insights, and decide on their reactions.
5. Provide nametags identifying the role that the learner will play in the situation, which can help to set the scene.
6. Refer to the name of the character that was portrayed and not the name of the student. This way students can discuss without personalizing their critique.
7. Terminate the activity while learner interest is still high. At this point, a discussion session can follow where learners share feelings, discuss alternate responses to the situation, and identify how the behaviors relate to the world of work. This discussion session should not be rushed because it can be a very important vehicle for learning.

In setting up simulation and role-playing activities, the vocational instructor should keep certain precautions in mind. Learners should participate in these situations without feeling coerced. The lesson to be learned from the activities should relate to the program objectives and should not be planned merely to fill time. Learners should never be asked to take part in a situation that portrays real personal problems. Situations that might embarrass learners in the class should be avoided. Finally, the activity should be directed so that learners complete it feeling that they have learned something about real life situations and that there is more than one solution to a problem.

Student-Teacher Contracts

Student-teacher contracts developed between special needs learners and vocational teachers can be an effective method in assisting them to succeed in meeting program requirements. The contract should be honest, fair, and positive. The terms of the contract should be developed cooperatively. It should contain terms and conditions that are clearly understood by all parties involved. The contract payoff or reward should be identified as well as the consequences to be accepted by the learner if contract terms are not met. The following are guidelines for developing and implementing student-teacher contracts:

1. decide on the task or project
2. specifically state the requirements
3. determine the minimum acceptable accuracy
4. set a time limit—initially short assignments and short time periods are best
5. identify consequences

a. both positive and negative consequences should be mutually agreed upon

b. suggestions for positive rewards should be provided by the student to ensure motivation

6. discuss contract in detail with the student and, if appropriate, support personnel
7. have all parties sign the contract
8. have student work toward completion of the project
9. directed teaching and positive reinforcement should be provided by the vocational teacher and support personnel
10. positive reinforcement is given to the student if the terms of the contract are satisfactorily met
11. uncompleted contracts are analyzed by the teacher and the student to determine the causes
12. new contracts are developed cooperatively.

A sample form for a student-teacher contract is presented in Figure 9.3. Vocational teachers should address the following concerns to effectively evaluate student-teacher contracts:

1. Does the special needs student and appropriate support personnel understand the contracting process being used?
2. Was the assigned task realistic for the specific learner?
3. Was the specified time period appropriate in relationship to the learner's abilities and limitations?
4. Did the special needs student enter into the contract situation voluntarily?
5. Did the special needs student begin the contract within a reasonable amount of time?
6. Did the special needs student organize essential materials, supplies, tools, and equipment in a way that makes the best use of study or project time?
7. Did the special needs student organize overall project time wisely?
8. Did the vocational teacher provide positive reinforcement during the time the special needs student was working to complete the contract requirements?
9. Were the requirements for successful completion of the contract reasonable?
10. Was the reward something that motivated the special needs student to work toward successful completion of the contract?
11. Would a system of self-checks have been

Figure 9.3

STUDENT-TEACHER CONTRACT

Date____________________ Vocational Program____________________

Student____________________ Vocational Instructor____________________

Support Personnel (if appropriate)____

Description of Task	Criteria for Completion	Instructor Initials When Completed

I ____________________ agree to complete the task(s) identified above. I will complete the task(s) by ____________
(student name) (date)
and understand that the established criteria for the task(s) must be met. After I have successfully completed this task I

may ____.
(reward)

________________________________ ________________
Student Signature Date

________________________________ ________________
Vocational Instructor Signature Date

________________________________ ________________
Support Personnel Signature(s) Date

beneficial to the special needs student (e.g., self-correcting exercises or programmed instructional materials)?

Task Analysis

Task analysis is a technique that can be extremely effective with special needs learners. It involves analyzing a job task and the competencies required to successfully complete the task. In the process, the task is broken into its component parts. The task should have a major goal or objective associated with it. The goal or objective should be clearly described at the beginning of the task analysis so that the vocational teacher, the special needs student, and/or support personnel will have a clear understanding of what is expected at the completion of the task analysis activity.

Skills and competencies associated with the task should then be identified. This includes prerequisite skills that are necessary to perform the task as well as skills that will be necessary to complete the specific steps of the task analysis. Identification of skills and competencies can be facilitated by consulting curriculum guides, other vocational personnel, and specific program requirements.

The job task should then be broken down into a series of small steps. The number of steps into which the task is broken depends upon the abilities and needs of the student. In other words, in the case of special needs students who learn more slowly than other students, the job task should be broken down into more specific steps.

The steps of the task analysis should be written in performance terms so that the learners know exactly what has to be done to complete each step. The directions for completing each step should be short, clear, and specific. The steps should be listed in order so that when all of the sequential steps have been successfully completed, the task will be mastered.

The task analysis procedure is an effective technique to use with most special needs learners because only one step of the task is introduced at a time. Students work at their own pace and can practice each step as many times as necessary until success is experienced. A new step is not introduced until success is experienced. A new step is not introduced until all previous steps in the task analysis have been mastered. Therefore, this procedure is effective in allowing these learners to master the task at their own pace while at the same time motivating them from one step to another.

When developing task analysis activities, vocational teachers should identify criteria for completion of the task. It is important that both the teacher and the student be aware of the evaluation requirements for completion of the task.

In establishing a system for using task analysis, it is first helpful to ''block'' an occupational area. This concept refers to identifying the areas to be taught in the vocational program curriculum. Several examples of blocking an occupational area are presented below:

A. Occupational/Vocational Area: *Plumbing*
   Blocking/Curriculum Areas—
   1. Measurement
   2. Blueprint reading
   3. Pipe and fittings
   4. New construction
   5. Sewers
   6. Testing
   7. Servicing
   8. Rules and regulations
   9. Safety

B. Occupational/Vocational Area: *Health Occupations*
   Blocking/Curriculum Areas—
   1. Work environment
   2. Patient unit
   3. Simple treatment
   4. Nutrition
   5. Personal care
   6. Charting
   7. Medication
   8. Major procedures
   9. Admissions and discharges
   10. Vital signs
   11. Equipment and supplies
   12. Equipment and facility maintenance
   13. Operation and management
   14. Bookkeeping
   15. Protective coverage

Once a vocational program curriculum has been blocked, each specific area can then be broken down into specific operating tasks. These tasks are then used in the task analysis development process:

1. Start with one item or task at a time.
2. Know the materials yourself (technical update of current operating procedures, equipment, etc.).
3. Determine the behavioral objective for the task.
4. Identify the component steps of the objective.
5. Analyze the steps and eliminate repetitive or unnecessary steps.
6. Sequence the steps in a logical order.
7. Identify prerequisite skills or knowledge needed for the task.
8. Use positive reinforcement.
9. Evaluate student progress according to estab-

lished criteria.

10. Alter the tasks and sequence as needed.

11. Make sure the learner repeats the task enough for overlearning to take place.

Examples of task analyses developed for use with special needs learners enrolled in a specific vocational program are presented:

Sample Task Analysis

Program: Cosmetology
Duty: Setting and combing hair into styles
Task: Make pin curls
Steps of Procedure:

1. Sanitize hands.
2. Seat patron (draped and shampooed).
3. Discuss desired hairstyle with patron.
4. Select and arrange needed materials.
5. Comb through hair to remove tangles.
6. Apply setting lotion (unless patron requests otherwise).
7. Comb setting lotion through hair, ending with hair combed in the direction of desired style.
8. Slice out small section of hair.
9. Ribbon section through comb to smooth hair.
10. Roll pin curl according to style desired.
11. Secure curl with clip in a position that will not interfere with next curl.
12. Repeat steps 8 through 11, overlapping each additional pin curl.
13. Continue procedure described in step 12 until desired style has been achieved.

Criterion:

1. Selected correct tools and materials.
2. Followed correct procedure.
3. Curls were wound smoothly.
4. Curls were appropriate for desired hairstyle.
5. Spot pin curls were installed in 15 minutes.
6. All pin curls were completed in 30 minutes.
7. Patron was satisfied.

Sample Task Analysis

Area: Marketing and Distributive Education
Duty Area: Displaying and Stocking Merchandise
Task List:

1. Check count of merchandise received from stockroom.
2. Check merchandise and retail price against copy of order sheet.
3. Design point-of-purchase signs.
4. Dismantle displays.
5. Dress mannequins.
6. Letter signs.
7. Pack and wrap merchandise for return to vendor.
8. Set up counter displays.
9. Set up manufacturer's displays.
10. Set up window displays.
11. Tidy up displays.
12. Stock merchandise.

Often an instructor checklist is included for each task. An example checklist from the second task analysis is shown in Figure 9.4.

Sometimes a task anaylsis must be further broken down into elements and sub-elements so that it can be effectively used with a specific special needs learner. An example of this procedure is shown in Figure 9.5.

One of the best sources of task analysis information is the V-TECS catalogs from the Vocational-Technical Education Consortium of States. This consortium produces worker-validated task analyses of job titles in the form of 140 V-TECS catalogs.

Using systematic development procedures, V-TECS members perform an on-the-job task analysis of an occupation, validate the tasks through a survey of workers, and from the tasks develop performance objectives with performance guides. The objectives and guides are subjected to further review by user groups prior to publication.

V-TECS is unique in that the incumbent worker is the source for identification and validation of the task; tools, equipment, work aids; elements of the performance objectives (to include the standards and conditions) and elements of the performance guides.

A catalog is basically a detailed job description of a specific occupation. It answers many questions and deals with the hands-on aspect of an occupation or the psychomotor skills involved.

Compiled in the worker-validated catalogs are Performance Objectives (which include every duty and task required for a job), Performance Standards, and Conditions for performing the tasks, organized by duty areas. Also included are Indexes of Duties and Tasks, Equipment and Tool Lists, Sources of Standards, and Sources of Literature that relate to the job title in question. A sample page from the Sheet Metal Work Catalog is shown on page 319.

The information from the V-TECS catalogs should always be locally validated with an advisory or craft committee and/or workers in the field before using the materials. Once this is done there are a variety of uses for these materials. The following list is suggestive.

1. The duty category grouping of tasks may be viewed as units and may serve as testing domains.

2. The performance objectives may be used as student learning goals or as standards with which to compare concurrent program objectives.

3. The performance guides may be used as:
   a. an operations sheet for the learner's practice in performing the task following instruction;
   b. a guide to the instructor in the conduct of a demonstration;
   c. a source for identifying learning content limits for each task;
   d. a source for writing enabling (enroute)

Figure 9.4

INSTRUCTOR CHECKLIST: SET UP COUNTER DISPLAYS

ACTIVITY	RATING	
	Acceptable	Unacceptable
The display: 1. Attracted the attention of customers.		
2. Exhibited the principles of display.		
3. Exhibited the following safety standards: a. Props were structurally designed to safely support displayed merchandise.		
b. Placement of merchandise was arranged so that no safety hazards existed.		
c. Lighting or other electrical fixtures were placed to meet all safety requirements..		
d. Flammable materials used in display were fire resistant as far as possible.		
e. Display was not located in an area where it would block exits or entrances.		
f. Display was free of sharp edges and corners.		
4. Included clean and fresh merchandise.		
5. Was designed around a definite theme or purpose.		
6. Included showcards or price tags that were informative, free of errors, dirt, smudges, and followed the purpose or theme of the display.		

(V–TECS catalog: Fashion Salesperson, 1981).

Figure 9.5

EXAMPLES OF TASK, ELEMENT AND SUB-ELEMENT STATEMENTS

COURSE: Home Maintenance
DUTY: Maintaining the Home Lighting and Wiring System
TASK: Replacing a Standard Attachment Plug
SUB-TASKS:

1. Assemble tools and materials
2. Remove attachment plug from cord
3. Prepare cord for plug
4. Tie holding (underwriters) knot
5. Connect cord to attachment plug

1st Level Elements

1. Remove 3 inches of cord outer jacket
2. Remove ½ inch of insulation from each wire
3. Scrape each wire clean
4. Twist strands of each wire together
5. Wrap end of fabric covered cord with thread

2nd Level Elements

1. Angle knife until it is almost parallel with wire
2. Pull knife blade toward end of wire
3. Lay back remaining insulation
4. Cut insulation off

Adapted from Herschbach, D. The relationship between job tasks and objectives. *Journal of Industrial Teacher Education*, 1979, *16*(2), 27–37.

objectives;

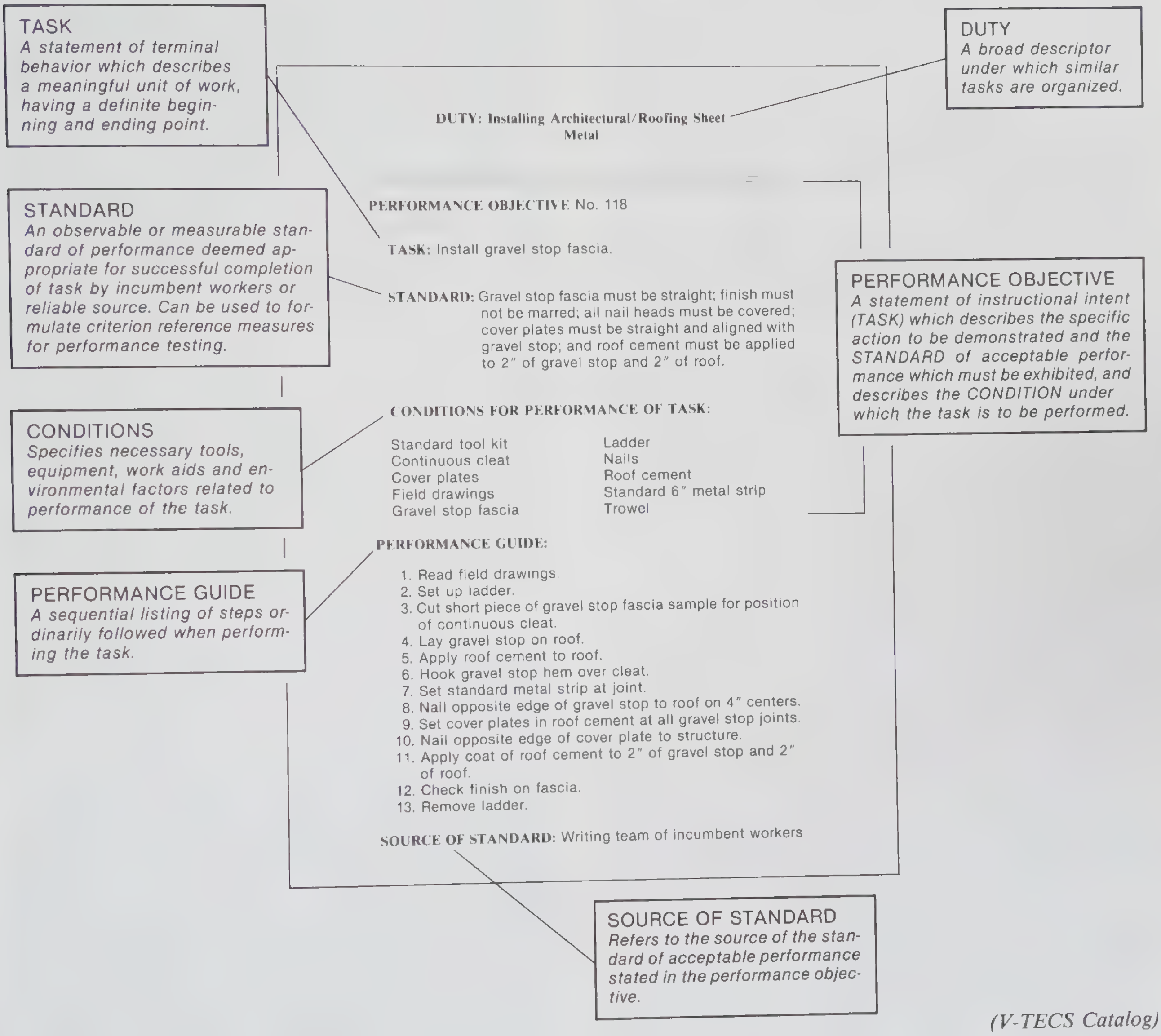
e. a guide to facilitate the sequencing of instruction;
f. a source of learning content from which formative tests may be conducted;
g. a guide to facilitate the structuring of learning modules (packages); and
h. a means of identifying and prerequisite capabilities the learner must possess before he/she attempts to study the task.

The consortium design produces a multiplier effect, which is essential in addressing a broad range of job titles in a reduced period of time. It offsets the high cost of a single state conducting this type of research and development alone. To date, V-TECS members have produced more than 130 catalogs, which provide in-depth analysis of more than 350 job titles as defined by the Dictionary of Occupational Titles. The catalogs include 23,000 tasks representing input from nearly 19,000 incumbent workers.

Team Teaching

Team teaching, as in the case of cooperative planning, is an excellent way to combine the knowledge and expertise of several professionals in a common effort to help special needs learners succeed in vocational programs. The team can be composed of two or more individuals who will use various skills to meet the specific needs of these students. Team membership can include representation from (a) other vocational teachers, (b) special education personnel, (c)

Sample Page:
Performance Objective from Sheet Metal Worker Catalog



DUTY: Installing Architectural/Roofing Sheet Metal

PERFORMANCE OBJECTIVE No. 118

TASK: Install gravel stop fascia.

STANDARD: Gravel stop fascia must be straight; finish must not be marred; all nail heads must be covered; cover plates must be straight and aligned with gravel stop; and roof cement must be applied to 2″ of gravel stop and 2″ of roof.

CONDITIONS FOR PERFORMANCE OF TASK:

Standard tool kit
Continuous cleat
Cover plates
Field drawings
Gravel stop fascia
Ladder
Nails
Roof cement
Standard 6″ metal strip
Trowel

PERFORMANCE GUIDE:

1. Read field drawings.
2. Set up ladder.
3. Cut short piece of gravel stop fascia sample for position of continuous cleat.
4. Lay gravel stop on roof.
5. Apply roof cement to roof.
6. Hook gravel stop hem over cleat.
7. Set standard metal strip at joint.
8. Nail opposite edge of gravel stop to roof on 4″ centers.
9. Set cover plates in roof cement at all gravel stop joints.
10. Nail opposite edge of cover plate to structure.
11. Apply coat of roof cement to 2″ of gravel stop and 2″ of roof.
12. Check finish on fascia.
13. Remove ladder.

SOURCE OF STANDARD: Writing team of incumbent workers

TASK
A statement of terminal behavior which describes a meaningful unit of work, having a definite beginning and ending point.

STANDARD
An observable or measurable standard of performance deemed appropriate for successful completion of task by incumbent workers or reliable source. Can be used to formulate criterion reference measures for performance testing.

CONDITIONS
Specifies necessary tools, equipment, work aids and environmental factors related to performance of the task.

PERFORMANCE GUIDE
A sequential listing of steps ordinarily followed when performing the task.

DUTY
A broad descriptor under which similar tasks are organized.

PERFORMANCE OBJECTIVE
A statement of instructional intent (TASK) which describes the specific action to be demonstrated and the STANDARD of acceptable performance which must be exhibited, and describes the CONDITION under which the task is to be performed.

SOURCE OF STANDARD
Refers to the source of the standard of acceptable performance stated in the performance objective.

(V-TECS Catalog)

disadvantaged specialists, (d) teacher aides, (e) support personnel, (f) parents, and (g) community volunteers. In addition, parents, volunteers, and employers can assist teachers as guest speakers.

Team teaching requires planning and coordination among the team members in order to clarify goals, objectives, content, instructional techniques, and evaluation methods for a specific unit, module, lesson, or activity. This method works particularly well when combined with flexible grouping. In this manner, team members can work with a small group of special needs learners and use a variety of teaching methods, media, and remedial techniques to meet the unique needs of individuals in the group.

Members of the team should contribute and lead in those areas where their strength and expertise lie. Cooperative team teaching arrangements for special needs learners should incorporate a schedule and a list of responsibilities so that individuals can prepare their contributions to the team effort. Planning should also take into consideration (a) use of media aids, (b) amount of time required for each session or activity,

(c) necessary facilities, supplies, equipment, tools, and (d) appropriate assessment methods.

Planning can be organized for large group sessions, small group sessions, and individualized sessions. This allows for one team member to work with special needs learners who may need remedial assistance in program terminology, reading assignments, related math, preparing for a test or quiz, or practicing hands-on skills. The Center for Research in Vocational Education has developed a checklist of ideas for teachers to address when developing team teaching plans.

Team Teaching Preparation Checklist

I. Planning
  A. Did team members share their opinions on matters related to the instructional program?
  B. Did team members share ideas in their area of specialty?
  C. Were team members actively cooperative (willing to compromise, patient, willing to learn from others)?
  D. Did members act as both leaders and followers?
  E. Did members share the total responsibility equally?
  F. Did members communicate openly?
  G. Did members constructively evaluate ideas?
II. Implementing
  A. Were options for student independent study provided?
  B. Did the plan include a variety of available media and educational technology?
  C. Were the instructional tools selected relevant to the subject to be learned?
  D. Did the team make plans for using small-group discussion?
  E. Did the team make plans for using large-group instruction?
  F. Were members assigned to groups of students varying in size and composition?
  G. Were plans made for self-diagnosis?
  H. Did plans call for members to share diagnostic and evaluation responsibility?
  I. Were the group sizes selected based on group purpose?
  J. Was the group composition selected based on group purpose?
  K. Was the time allotted to each group based on group purpose?
  L. Was the physical environment selected based on group activities involved?
  M. Were tasks assigned to each team member based on his or her talents and interests?
  N. Was the nature of supervision provided for each group determined based on group purpose?
  O. Did subject matter content include provisions for individual differences? (Employ the Team Teaching Approach, 1977).

Tutors

Tutors can be very effective in working with handicapped and disadvantaged learners. This method of instruction can be beneficial in a number of ways. The special needs learner is given an opportunity to develop interpersonal relations with others. It also relieves the vocational teacher from spending too much time with one or two students. Tutoring enables students progressing slower than others to develop the proficiencies needed for success in the program.

Tutors can be used to teach content area instruction, reinforce classroom instruction, assist in teaching remedial academics (e.g., reading and math), perform presentations and demonstrations, work in one-to-one or small group activities in the laboratory, aid in completing classroom assignments and projects, help review for tests, and administer and evaluate tests. Some advantages of initiating peer tutoring situations for special needs learners in the vocational program are:

1. The special needs learner remains mainstreamed in the regular vocational program and also receives remedial assistance.

2. The tutor acts as a good peer model for the special needs learner.

3. Tutors can help special needs learners to develop interpersonal skills.

4. Tutors can help special needs learners to increase their self-concept and motivation levels.

5. Tutors help release vocational teachers so that they can work with others in the class.

Tutors can be recruited from a variety of sources. Examples of the types of volunteer tutors available to vocational teachers are:

1. Instructors. Tutoring can be done by the vocational teacher, special needs staff, or a team approach by both. Tutoring can be done on a one-to-one or a small group basis, depending on the number of special needs learners who require assistance.

2. Peers. Tutoring done by peers employs what is commonly referred to as the buddy system. This method pairs a special needs learner with another student in the class. In many cases both the peer tutor and the special needs learner improve through reinforcement of program content. The peer tutor feels competent and useful by being selected to tutor. The special needs learner can progress at an individualized pace without pressure from others in the class. Peer tutoring relationships frequently foster enthusiasm, motivation, confidence, increased atten-

dance, improved performance, and positive attitudes toward school.

Peer tutors can be recruited from students in the same class, students enrolled in advanced courses, and student volunteers interested in pursuing a career in teaching (e.g., members of the Future Teachers of America organization). Extra credit can be offered as an incentive. Schedules will have to be arranged cooperatively with students and other teachers.

Ervin (1980) identifies the following qualities and characteristics necessary for students selected to be tutors. The tutor must:

1. Make a commitment to help students that are "different" from them;
2. Have the skills and knowledge in the vocational area they will be working in;
3. Be mature and emotionally stable;
4. Have leadership ability;
5. Understand the necessity and repetitions of operations and procedures;
6. Be able to make decisions when necessary;
7. Be able to plan and evaluate work done by students;
8. Be able to determine if quality and quantity of work is acceptable;
9. Be able to communicate with and relate to others;
10. Be able to give constructive criticism that will motivate other students to do better;
11. Be able to remedy or rectify problems that may arise; and
12. Be able to handle emergencies.

Steps that are very important to the success of a peer tutoring situation include careful selection of the peer volunteer, assurance that confidentiality of information will be respected, preparing the tutor with the necessary skills through an appropriate training session, matching the tutor with the special needs learner, supervising the tutor-learner situation, providing communication and support to the tutor, and evaluating the effectiveness of the learning arrangement.

3. Senior citizens. This valuable resource should not be overlooked. Retirees have many years of occupational experience from which to draw. They have a need to feel useful and contributing. They can share their experience and expertise with special needs learners. In return they receive a sense of dignity and respect, a chance for social interaction, and a sense of commitment to share their knowledge with others. In addition to tutoring students in skills development and remedial academics, they can offer career guidance and job-seeking information to handicapped and disadvantaged learners. Retirees have an understanding of the requirements, performance skills, and social skills necessary for employment in a specific occupational area. They may also have contacts in the community who would be willing to hire special needs learners.

4. College students. If these individuals are in teacher preparation programs, they may welcome an opportunity to work with students and gain some practical teaching experience.

5. Part-time workers in the community. The schedules of the students will have to be modified in some cases to meet the schedules of the tutors.

6. Parents of students. The vocational teacher can enlist the services of parents regarding program objectives and specific services they can provide special needs learners through tutoring.

Computer Applications for Instruction

The use of microcomputers, as part of the technology that now is a part of American education, can be a very beneficial tool to use with special needs learners. Most jobs in the future will likely require some degree of computer literacy. Thus, sooner or later, vocational educators must not only confront and deal with this new technology but also modify the instructional content of their program offerings to reflect it.

Computer-assisted instruction (CAI) will allow vocational teachers to avoid many of the time-consuming daily duties and transfer their energy into other challenging activities such as providing information on a one-to-one basis, providing remedial assistance, offering enrichment material, keeping accurate track of learner progress, and allowing the learners to progress at their individual pace. However, no computer will ever be able to take the place of teachers and their most valuable asset—the ability to make judgements on matters of instructional quality and to guide learners in the most appropriate educational direction.

In testimony before the Congressional Committee on Science and Technology in 1978, information was provided to indicate that while the role of the teacher will not diminish, it will definitely change. It is probable that, in the future, the teacher will become more of a "sharing person" who, along with others, will be responsible for the students' learning experiences. In addition, while teachers will continue to support basic skills, they will also give special attention to ways in which these skills relate to new media and technologies.

Three general, distinct advantages exist for using microcomputers and appropriate software with special needs students. First is the ability to assist in individualization. Computer-assisted instruction is self-paced and can move at each learner's speed. Learning sequences and levels of instruction can be tailored to the needs of each student. The second advantage relates to motivation. Special needs learners seem to be drawn to computer-assisted instruction. The third advantage is that the microcomputer is an interactive medium, providing special needs learners with immediate evaluative feedback regarding their performance. Microcomputer programs can be humanized and personalized to help special needs learners relate better to the materials.

There are many specific advantages using the microcomputer, along with appropriate software, with special needs learners enrolled in vocational programs. The microcomputer:

1. provides the learner with individual attention
2. provides a multi-sensory learning environment
3. provides a variety of reinforcement, regardless of how many repetitions are necessary
4. allows learners to drill, repeat and practice
5. provides learners with control of the learning environment and permits them to progress at their own pace
6. provides immediate feedback
7. provides teachers with diagnostic and prescriptive information
8. decreases the need for teachers to spend a great deal of time preparing paper-and-pencil assignments and activities
9. provides parents who have a home computer with a tool to reinforce school assignments.

Information relative to selecting appropriate software for use with special needs learners is provided in Module 8, Curriculum Modification for Special Needs Learners.

REMEDIAL READING TECHNIQUES

It has been well documented that inadequate reading skills limit educational opportunities and in many cases, employment possibilities. A strong relationship exists between reading disabilities and the syndrome of alienation concerning the school experience.

Numerous research activities have reported the high proportion of nonreaders among school dropouts. Therefore, there is an urgent need to help disabled readers remain in school and develop vocational skills. Reading means getting meaning from printed symbols. Because students are reluctant to read does not mean that they are reluctant to *learn*. Teaching reading skills in a vocational setting means teaching a process, not teaching more content material.

Among the more important points to remember about reading are that: (a) learners will need help in learning to read materials before they can use those materials to learn concepts, (b) vocational materials are often written to accommodate the technical needs and not the student needs, and (c) vocational content areas have specialized vocabulary, which should be brought to the student's attention (Stern, Otazo, and D'Oronzio, 1980).

Each learner has three reading levels, which are identified as:

1. *Independent* reading level - learner can read and comprehend information independently and requires no assistance.
2. *Instructional* reading level - learner will probably require some assistance in identifying new words and in comprehending new content.
3. *Frustrational* reading level - learner is unable to read or comprehend material.

The problems that students with reading deficiencies have can be categorized into three areas that identify the type of reading problem the student has in relationship to participating in the vocational program. A few learners may be identified as *nonreaders* because of their inability to read anything at all. Other learners who have reading deficiencies will be able to read the written words but will be unable to comprehend what they have read. Still others are able to read and comprehend written material, but not at the level at which assigned instructional materials are written.

Remedial Reading

In the classroom and laboratory the vocational teacher will have students reading at many different grade levels. Their differing abilities should be matched with the instructional materials and techniques if these learners are going to be successful. Cooperative planning with support personnel can prove to be very helpful, as vocational teachers are not reading teachers.

A compilation of tips and techniques that can assist the vocational teacher in meeting the needs of learners who have reading disabilities is presented below.

1. Make a tape recording of written passages. Allow students to listen and read materials at the same time. (A student can make the tape for you.)
2. Label all tools and equipment in the laboratory.
3. Graphically illustrate procedures performed in the class.
4. Use transparencies when lecturing.
5. Construct written directions. Number each task. Use short sentences. Put them in sequential order.
6. Construct a dictionary of technical and common words frequently used in your program.
7. Demonstrate procedures. Use a flip chart to illustrate the term that identifies the procedure.

8. Read written content information out loud.

9. Request easier-to-read materials from publishing companies.

10. Have recordings of texts available. (These may be obtained commerically or students can record for extra credit.)

11. Evaluate the readability (reading level) of all chapters of a text, manual, pamphlet, or handout. Match with the reading level of specific learners.

12. Make sure alternate instructional techniques use the same content, terms, and sequence used in printed (reading) materials (e.g., slides, filmstrips, video, cassettes).

13. Encourage notetaking by peer volunteers to allow special needs students to listen and concentrate on content being presented.

14. Use posters and bulletin boards to create a reading atmosphere.

15. Teach students to break words into syllables.

16. Have students construct vocabulary games to be used in class.

17. While watching a film, ask students to write down the main idea of specific parts of the film. Have students list details, too.

18. Create a picture dictionary of tools and equipment used in the laboratory.

19. Prepare group reading activities so that students can learn from one another.

20. Do not use one unfamiliar term to explain another.

21. Have students repeat unfamiliar terms and write them on the board so they can both hear them and see them.

22. Have materials available at many reading levels. Preview all materials that you plan to purchase so that the content, terms, and sequence are in line with your instructional plans.

23. Record lectures so that students can review the content auditorily.

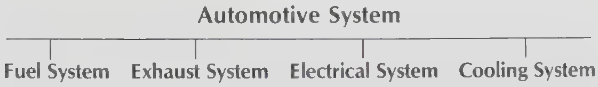
24. Develop worksheets rather than textbook reading assignments by copying specific pages from a book or manual. (With this method the student does not have to deal with an entire text.)

25. Present as many hands-on experiences as possible to offset the student's inability to read.

26. Develop "key concept" worksheets to be completed prior to reading assignment.

27. Pre-teach the special, technical vocabulary or "trade talk" terms that your students must know in order to understand reading material, as well as those important illustrations that they often ignore.

28. Use *structured overview* diagrams showing the relationship of words to each other.



29. Use a *vocabulary scan* where the student looks for unfamiliar words in an assigned reading, looks the words up in the glossary, and gains a general understanding of their definitions by reading the sentences in which they are placed.

30. Create a *vocabulary workbook* of survival vocabulary for your program. The definitions should not be seen as complete, but rather as a first step in understanding a word (e.g., ELECTRICAL SURVIVAL VOCABULARY: circuit, current, resistance, flowing, amperage, meter, ammeter).

31. Have the student create a glossary of terms as instruction progresses in your program. Use of appropriate glossaries is important in building the learner's vocabulary. Definitions of terms should be self-explanatory (i.e., you should only use words that have been defined previously).

32. Review the definitions given in the glossaries of the textbook(s) you are using in the program. If the definitions are too difficult, you may have to write your own or direct the student to other glossaries or dictionaries that pertain to the subject (pictures, diagrams, and sketches are extremely useful).

33. Work on comprehension skills (e.g., recalling facts/details, choosing main ideas and concepts, drawing conclusions, making inferences/judgements, placing events/items in order, observing cause-and-effect, developing critical thinking skills, perceiving relationships).

34. Tab books and pamphlets to indicate what topics are available from them.

35. Use a wall chart to indicate what materials the student may consult when looking for alternatives for a particular topic.

36. Cut up texts and arrange in folders with extraneous parts deleted and teacher explanations for important or confusing sections.

37. Explore the organization of each chapter before the students read the material independently (e.g., analyzing the title, examining headings and subheadings, analyzing illustrations, reading introductory paragraphs, highlighting important sentences, reading the concluding paragraphs/summary, and glancing at questions and/or exercises).

38. Provide study guides (i.e., outline main points, define important terms, note important sections/directions/visuals/activities, provide questions for the student which lead to various parts of the text, and guide student to other related materials or activities

such as audiovisual materials/alternate written materials/specific projects/previous lessons).

39. Substitute less difficult words for difficult ones that have the same or similar meaning.

40. Utilize *vocabulary modules* (slides, cards, and pictures to teach a learner how to use and recognize basic vocabulary within a given occupation).

41. Develop a *Basic Symbols Guide* to help students follow task sheets and develop a related technical sight vocabulary for a specific vocational program. See Figure 9.6 for an example of a Basic Symbols Guide.

REMEDIAL MATH TECHNIQUES

Some special needs learners will have some math deficiencies. Some may have problems with basic computation (addition, subtraction, multiplication, division, fractions). Others may have difficulty with reading numbers on objects (rulers, thermometers), measurement, telling time, converting fractions, determining numerical place value and making estimations. Often these students will have problems reading math problems and communicating an answer in writing, even though mental calculation is possible.

Otazo-Stern (1980) and Kók (1982) have suggested some tips that will assist vocational teachers in working with special needs learners who have math deficiencies.

1. If students are unable to complete an entire assignment, offer a choice of doing any 10 out of 20 problems or the top or bottom half of a page.

2. Have a timed daily quiz (two to three minutes) at the beginning of the class. Each day have the students correct the quizzes themselves. Make the time allotment not quite enough for most of them to complete the quizzes. Give the same quiz four days in a row or give the same problem and only change the numbers. Grade on the last day.

3. Concentrate on what the student is ready for.

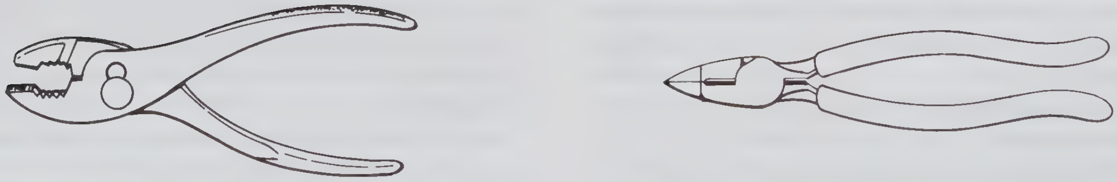
4. By the 11th grade, bypass what the student is having trouble with by using calculators, tables, pocket charts, etc.

5. Develop worksheets on mathematical shortcuts, such as a worksheet depicting number values (e.g., tens, ones) and multiplication charts.

6. Students might have trouble keeping track of numbers in their heads. When students must count out

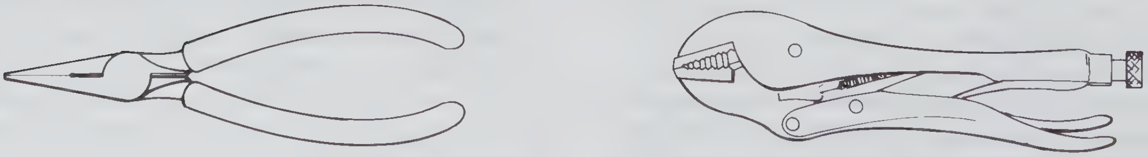
Figure 9.6

BASIC SYMBOLS GUIDE FOR METALS PROGRAM



COMBINATION

SIDE CUTTING



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several measures (such as for a feed mixture or a large recipe), teach them to use a computer to keep track.

7. Check for the basics: telling time, reading numbers up to six-place whole numbers and decimals to one-thousandths, knowing basic geometric shapes, reading and using the ruler to 1/32 of an inch, measuring temperature, and estimating time.

8. Check for understanding of the math vocabulary. List the vocabulary and define at the beginning of class.

9. Present materials in an organized, step-by-step way. List and number the steps.

10. Make the symbols clear and understandable.

11. If students reverse numbers or mislay them during operations, have them use graph paper or work the operation in a tic-tac-toe configuration.

12. Never require students to perform concurrent math operations unless you are sure they can perform all the operations required.

13. Remember that the *product* is the most important aspect of your math objectives for these learners as opposed to the *process*.

14. Increase the use of visual aids, particulary in the area of measurement, in the classroom and laboratory.

15. Have the student say the problem out loud and verbally indicate the steps.

16. If the emphasis is on process and accuracy, allow extra time and the use of the calculator.

17. Use oral tests in which students can explain process and pinpoint problems.

18. Talk through word problems and draw a chart to show the reasoning.

19. Practice with formulas and make them understandable by putting them into common terms.

20. Bring in a math specialist to the classroom to teach a specific area such as linear or square measurement and conversion of fractions to decimals.

21. An important point in teaching math skills will be the instructional sequence (i.e., simple to complex) rather than trying to teach math skills as a whole.

22. Only teach those math skills that are essential to the completion of a performance task. Do not waste time teaching concepts that are not directly related to what the student is being asked to do.

23. If the task requires a number of steps, give only one step at a time. For some students, smaller steps will have to be identified, and even for that smaller step your instructions will have to be more complete.

24. Let students learn the last step in a series first and work back to being able to do the entire series.

25. Set aside an hour a week to work on math-related skills.

26. Gather math-related materials that correspond to the interest area of the vocational class of the student (e.g., measuring boards or using an ohmmeter).

27. Use visual and tactile materials to demonstrate math concepts (e.g., measure the floor of the classroom to figure footage; use charts, graphs, diagrams and blueprints to develop math problems).

28. Mark a clear plastic bottle with the required amounts of ingredients for solutions, rather than having them count out capfuls or measuring ingredients.

29. Some students find decimals easier to work with than fractions. Ask the support teacher to convert your recipes, formulas, or measurements from fractions to decimals.

30. Spell out all words, rather than using abbreviations such as "Tbs." or 'tsp."

The math abilities of a student can be determined by referring to student records, asking support teachers, or utilizing teacher-made or standardized checks of critical basic operations and measurement prior to regular instruction. Nothing about a student's learning abilities should be taken for granted. Find out from the support personnel who work with the student exactly what math deficiencies the student has. Be prepared to explain to support teachers what math is required in your program since most of them will have very little knowledge of vocational education curricula.

SUMMARY

Special needs learners represent a diverse population of learners who possess a variety of different learning styles. They cannot all learn at the same rate or through the same instructional techniques. The characteristics, abilities, interests, learning styles, and needs of each student must be taken into consideration when planning classroom and laboratory instruction.

The methods vocational teachers use to present program information to special needs learners may make the difference between success and failure. One instructional technique will not meet the unique needs of every handicapped and disadvantaged learner enrolled in a vocational program. Therefore, a variety of techniques should be used to address the individual differences of these students.

Each special needs learner will have individual abilities, needs, learning styles, and occupational goals. These should be considered in designing the instructional program and identifying the ways in which instruction will be delivered. It is often helpful for vocational teachers to work cooperatively with other personnel who may be familiar with appropriate instructional techniques for specific special needs students.

Vocational teachers can experience success with special needs learners by utilizing a variety of approaches to delivering program instruction. A number of different techniques are described in this module. The point should be made that not every instructional technique presented here can be used successfully with every special needs learner. It will require a degree of flexibility and experimentation on the part of vocational teachers to determine which techniques best meet the needs of each handicapped or disadvantaged learner. Cooperative planning with other personnel who are familiar with the student can be very helpful in selecting and utilizing appropriate instructional techniques.

Some initial considerations should be addressed by vocational personnel when selecting instructional techniques to be used with special needs learners. These considerations include such important concerns as (a) individual differences among students pace of learning, (b) ability levels of the student (e.g., reading level, math level, vocational assessment results, objectives identified in the individualized education program for handicapped students or the individual prescribed program for disadvantaged students), (c) preferred learning style(s) of the student (auditory, visual, psychomotor, or a blend of these styles), and (d) difficulty of subject matter to be covered (e.g., readability levels of books and materials, related terminology, level of related math involved).

SELF ASSESSMENT

1. Why should a number of instructional techniques be used in providing content to special needs learners?
2. How can the demonstration method be used to help special needs learners succeed in vocational programs?
3. What considerations should be addressed by vocational teachers when planning demonstrations?
4. How can field trips and job site visitations be used to help special needs learners succeed in vocational programs?
5. How can special needs learners participate in planning for field trips and job site visitations?
6. How can grouping special needs learners be used to help them succeed in vocational programs?
7. Name several different types of grouping patterns that vocational teachers could use in planning the instructional program.
8. List several advantages for vocational teachers when they use the grouping technique to plan for special needs learners.
9. How can individualized instruction activities be used to help special needs learners succeed in the vocational programs?
10. Name several techniques involved in the individualized instruction approach.
11. What considerations should be addressed by vocational teachers when planning individualized instruction activities?
12. How can educational media aids be used to help special needs learners succeed in vocational programs?
13. List some specific media aids that can be used to accommodate the individual needs of handicapped and disadvantaged learners.
14. How can projects be used to help special needs learners succeed in vocational programs?
15. How can simulation and role-playing activities be used to help special needs learners succeed in vocational programs?
16. How can student-teacher contracts be used to help special needs learners succeed in vocational programs?
17. What are some guidelines to remember when developing student-teacher contracts?
18. How can the task analysis technique be used to help special needs learners succeed in vocational programs?
19. How can the team teaching approach be used to help special needs learners succeed in vocational programs?
20. How can tutors be used to help special needs learners succeed in vocational programs?
21. Name several types of tutors.
22. Describe some specific ways in which computer-assisted instruction can be an effective instructional tool for use with special needs learners.
23. Describe several techniques that can assist learners in your programs who have problems with reading.
24. Describe several techniques that can assist learners in your programs who have problems with math.

ASSOCIATED ACTIVITIES

1. Make a list of all special needs learners enrolled in your program. Contact support personnel to discuss their ability levels, strong learning style, and specific needs. Discuss which instructional techniques would probably be effective in planning for each student. Use cooperative planning techniques with other personnel

in planning your instructional program to meet the needs of these handicapped and disadvantaged learners.

2. Plan a demonstration to be incorporated into a lesson or unit that you will be teaching soon. Be sure to keep in mind the considerations mentioned in this module.

3. Plan a field trip or a job site visitation for the entire class or a small group of special needs learners. Allow these students to participate in planning and implementing the activity.

4. Study your class list and develop some flexible grouping patterns that would help special needs learners to succeed in classroom or laboratory activities, projects, and program assignments.

5. Talk to other vocational teachers, support personnel, vocational administrators, and state department contacts to determine whether there are commercial or teacher-prepared individualized instruction materials available for use by special needs learners in your program.

6. If there are no individualized instruction materials readily available to you, inquire about the existence of special needs funds to purchase some of these materials. If you still receive a negative response, work cooperatively with other personnel to develop individualized materials and activities for your program.

7. Locate educational media aids in your building that can accommodate the individual needs of special needs learners enrolled in your program.

8. Develop some project guidelines for use with special needs learners in your program. Plan these projects in coordination with students and support staff.

9. Develop some simulation and role-playing activities for use with special needs learners in your program.

10. Develop a format for student-teacher contracts to be used with special needs learners in your program. Plan the contract format, guidelines, and evaluation criteria in coordination with students and support staff.

11. Analyze proficiency and skill requirements necessary for successful completion of your program. For specific special needs learners, develop task analysis activities for each of the tasks involved in the required skills and proficiency. Seek assistance from support personnel.

12. Develop team-teaching arrangements with other vocational personnel, support personnel, and/or support staff.

CASE STUDY: ERIN'S STORY

Erin is enrolled in the Practical Nursing Program at the Centerville Community College, an area postsecondary institution. Erin has been identified as having a learning disability evidenced through her problems in visual perception. As a part-time sales clerk at a local retail store, she has always wanted to be a pediatric nurse.

From test scores, personal comments, and teacher observation, it appears that Erin is an auditory learner. When questioned in class and during clinical activities, she seems to understand the material. However, this understanding does not come through on her written tests. During the last midterm evaluations, she gave many obvious clues to her problem. She said that she remembered material best when she repeated it to herself or to a friend. Also, she said that she understood more after hearing a lecture than after reading the material.

Like many learning-disabled students, Erin has learned to cope fairly well. She did well in high school primarily because many instructors taught using the lecture technique. At Centerville Community College, she saw individualized instruction as an obstacle that she could not overcome. The program involves much reading of technical material and the ability of the student to ask for assistance as needed. Erin is a quiet girl and is hesitant to approach the instructor with her problems. This shyness, along with her reading comprehension problems, has caused her test scores to drop.

Erin's interpersonal skills are well developed. She relates well with her peers and her patients. No other physical problems are present. She is an attractive and personable young woman. If she can learn how to cope with her learning disability and acquire all of the skills necessary to become an LPN, she will have no difficulty finding and retaining employment.

Choosing appropriate instructional strategies to meet her needs has certainly changed her performance in the Practical Nursing Program. The first technique was to give her more time to review material that she did not understand during the first and second quarters. Review sessions consisted of discussing the material with the instructor, watching audiovisuals, and listening to tapes. After the review, Erin completed a test on each unit. The test scores did not count, but they gave her more practice in testtaking.

Additional techniques that were successful included taping all lectures, including more audiovisuals, and involving Erin in more hands-on learning activities in the clinical portion of the program.

The exit criteria for Practical Nursing will not be changed. However, adaptations in the way that the material was presented were used to help Erin succeed.

RELATED ACTIVITY

Using the information provided in the case study about Erin, complete the following activity.

Select a unit that is taught in your vocational program area. Next, identify a lesson that would be taught within that unit. Complete the following format for planning to teach this lesson to Erin.

Vocational Program ______________________________

Unit Title ______________________________

Lesson Title ______________________________

INTRODUCTION OF LESSON

A. Objectives:

B. Introduction Strategies (i.e., How would you introduce this lesson to the entire class?) List strategies or steps in order:

C. Special considerations in introducing the lesson to Erin:

Anticipated Problem	Suggested Strategy

TEACHING THE LESSON

Steps in Presenting the Lesson to the Entire Class	Instructional Techniques for Presenting the Steps to Erin
Specific Steps in Order:	

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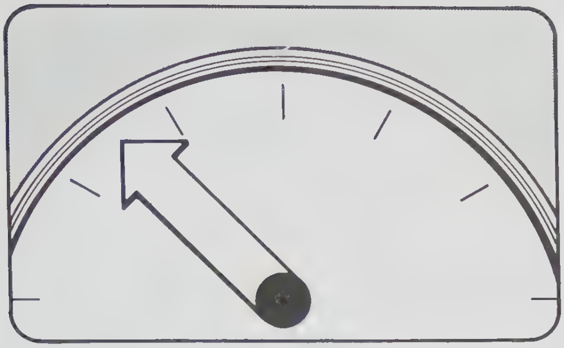


10

One of the concerns of vocational teachers who work with special needs learners is testing, evaluating, and reporting the progress of special needs learners. Teachers are concerned about how to make evaluation and grading procedures fair to both special needs learners and other students without lowering program standards. Vocational teachers who have worked with special needs learners are convinced of the need to modify testing, evaluation, and grading practices for some special needs learners but are not sure how to make these modification in light of school system grading policies and minimum competency tests. Many vocational teachers admit to having inadequate training in testing, evaluating, and reporting grades for special needs learners.

This module presents information on how to develop an evaluation and grading system based on the needs and abilities of special needs students in relation to accepted performance standard rather than on how a student compares to another student. Evaluation is presented as part of the instructional process and not as an added component designed solely for the purpose of determining a grade at the end of a marking period.

OUTLINE

- Evaluating Special Needs Learners
- General Considerations
- Benefits Provided by Evaluation
  - Benefits to Students
  - Benefits to Teachers and Support Personnel
  - Benefits to Parents and Employers
- Perspective on Evaluation
- The IEP and IPP as Guides for Evaluation
- Establishing the Evaluation System
- Evaluation Topics
- Evaluation Methods
  - Student-Teacher Contracts
  - Pencil-paper Tests
- Evaluation Techniques
  - Performance Tests
  - Observation Techniques
  - Peer Evaluation Techniques
- Alternate Evaluation Techniques
  - Modifying Measurement and Evaluation Techniques
  - Modifying Test Items and Directions
  - Reducing Fear of Test and Providing Feedback
- Constructing Tests
- Grading System
  - Characteristics of the Grading System

    - Function of Grades
    - Grading Techniques
- Marking Systems
    - Point System
    - Averaging System
- Grade Reports and Competency Records
- Summary
- Self Assessment
- Associated Activities
- Case Study
- Related Activity
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Identify the benefits of an effective evaluation component for special needs learners.
2. Describe how to establish the evaluation system using the IEP and IPP as a base.
3. Identify and describe evaluation topics for inclusion into the evaluation component.
4. Identify major evaluation methods and techniques that are used with special needs learners.
5. Identify and describe alternate evaluation techniques.
6. Describe the steps in constructing tests.
7. Describe the grading systems used for special needs learners.
8. Explain how student grades are reported.

CONCEPTS

Cooperative planning - The process of planning an individual program for special needs learners involving the vocational teacher, student, parents, and appropriate school and community support personnel.

Diagnosis - The act of recognizing symptoms or indicators of behavior and making judgements about overall performance.

Evaluation - Using information obtained through measurement to make judgements on student progress.

Feedback - Information provided to students that describes details about their performance on learning outcomes.

Grading - The process of assigning qualitative numbers or letters to indicate student achievement.

IEP - Individualized education program for handicapped learners planned cooperatively with support personnel.

IPP - Individual prescribed program for disadvantaged students planned cooperatively with support personnel.

Measurement - The process of obtaining information about student progress without making judgements of worth.

Minimum competency test - Norm-referenced test used to determine minimum student competency in identified learning outcomes.

Multiple exit points - Identified points in a vocational curriculum where students can exit to gain entry-level employment in a specific job.

Pencil-paper test - Written test that is designed primarily to measure a student's level of achievement in the cognitive domain.

Performance test - Test in which special needs learners are required to perform a real or simulated occupational task while their performance is being evaluated by the vocational teacher.

Special education teacher - Special teacher who is employed by the school system to provide instruction and services for handicapped learners.

Special education - A broad term covering programs and services for learners who require unique learning experiences, techniques, and materials in order to be maintained in the regular program or in specialized classes when necessary.

MODULE 10
LEARNER EVALUATION AND GRADING PROCEDURES

EVALUATING SPECIAL NEEDS LEARNERS

One of the challenging roles of the vocational teacher is to measure and evaluate student achievement in reference to specified learning goals and objectives. Many teachers feel uncomfortable in their evaluation role with ''regular'' vocational students but usually express even more concern when they are asked to test, evaluate, and report the grades of special needs learners. Teachers are concerned about how to make evaluation and grading practices fair to both special needs learners and other students without lowering program standards. Many teachers are convinced of the need to modify their measurement and evaluation methods and techniques to assess the achievement of special needs learners more accurately, but are not sure they know how to make the modifications acceptable in light of school grading policies. Teachers also fear the impact of minimum competency tests that are used as one factor in retention decisions. No teacher wants to defend why a student earned a passing grade for a given course only to have the same student fail in a minimum competency test. The problem of evaluating special needs learners in vocational subjects is made even more acute in that many vocational teachers perceive themselves as having inadequate training in testing, evaluating, and reporting grades for special needs learners.

The evaluation system for measuring and reporting the progress of special needs learners should be based on their needs and abilities related to specified competencies rather than how well these students perform as compared to other students. The educational needs and abilities of handicapped learners are identified and listed in the individualized education program (IEP), while the needs and abilities of disadvantaged students should be identified and specified in the individual prescribed program (IPP). Therefore, the IEP for handicapped learners and the IPP for disadvantaged learners can serve as a basic guide for establishing an evaluation system, and the cooperative effort of IEP and IPP team members can result in a system that is fair and reasonable to all students. The evaluation system must be comprehensive in scope and use a variety of measurement and evaluation techniques to provide information that is useful to the student and the teacher. The evaluation system must be communicated to students and their parents to minimize fear and anxiety as well as to gain their acceptance and participation. The evaluation system must also be consistent with the testing, evaluation, and grading policies of the school system.

GENERAL CONSIDERATIONS

The evaluation and grading system used by vocational teachers in working with special needs learners must be individual-to-individual accomplishments. It must be based on the student's capabilities and needs rather than on a system that compares students with other students. It must also be criterion-referenced, which means that testing should render information concerning what tasks a learner can or cannot perform to a predetermined standard in a clearly defined area, independent of the performance of other students. In other words, the evaluation system should be based on the amount of progress made by students toward prescribed outcomes and the quality of work produced as compared to the assessed abilities, interests, and needs of each student.

This does not mean that vocational teachers should lower program standards for special needs learners so they can earn passing grades. If special needs learners are to be employable upon completion of the program, they must meet employability standards of business and industry. Rather than lowering program standards, vocational teachers need to design flexibility into their program and provide training for a variety of jobs that require different sets of competencies and different levels of achievement.

Multiple exit points leading to a variety of jobs in business and industry can be identified for each vocational program. For example, in the occupational area of auto mechanics, a student may receive instruction in an educational program that has identified certain tasks which when completed, leads to employment in a number of job titles. These jobs may be a service station attendant, front-end alignment specialist, parts clerk, automobile engine overhaul mechanic, or others.

This approach can provide vocational teachers with a way to match the abilities and proficiencies of students with realistic employment opportunities and improve the chances for students to successfully complete portions of the total program leading to productive employment.

Flexibility in planning vocational programs involves more than providing multiple exit points. It also entails providing students with extended time, when necessary, to successfully complete individual education programs. If the final goal is for students to master a specified set of competencies at set employment standards, then special needs learners should be allowed more time to develop these competencies if necessary. This procedure is better than failing these students because they cannot keep up with the predetermined pace.

Flexibility in planning programs in which special needs students can experience success should also involve special needs support personnel. Disadvantaged specialists, special education teachers, and other support personnel can offer remedial instruction to students who are not able to keep up with other students in assigned work activities. This additional instruction can often mean the difference between success and failure for special needs students enrolled in vocational programs.

BENEFITS PROVIDED BY EVALUATION

The measurement and evaluation component of vocational programs for special needs learners must be designed for more than the function of providing an administrative grade at the end of a specified grading period. It should provide a number of benefits to students, teachers, parents, and employers.

Figure 10.1 shows the major benefits provided to students, teachers, parents, and employers by an appropriate and effective evaluation effort for special needs learners.

Benefits to Students

Four major benefits that special needs learners can derive from an effective evaluation effort exist. First, student motivation can be improved. Tests can encourage students to study assigned materials and to practice skills if they are designed to be interesting, rewarding, and within the student's ability level. Tests often evoke varied responses from students, ranging from an increased desire to succeed in a course and to compete with other students, to a renewal of the fear of failure and the frustration of not being able to perform up to ability level because of imposed testing and evaluation methods.

The testing and evaluation component for special needs learners should be designed to reduce the negative responses and emphasize positive ones, which lead to motivated learners. For example, testing and grading practices can be modified so they are more flexible in time, cover a more narrow scope of content, and include a factor of the degree of student effort put forth. Evaluation techniques such as using graphic stickers, tokens, special privileges, and certificates can be used to encourage students to achieve at higher levels. Special needs learners are seldom motivated internally and usually are motivated by secondary or external rewards. Teachers can help these learners become motivated by providing prompt and appropriate feedback and by using appropriate reward techniques.

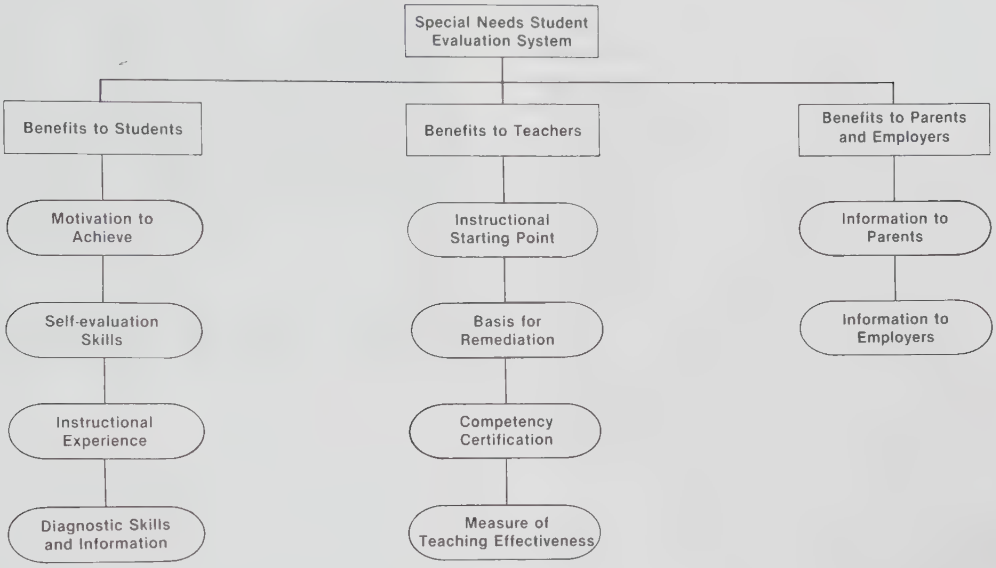
A second major benefit of the evaluation system for special needs learners is the opportunity to learn self-evaluation skills. Special needs learners can learn how to evaluate their own performance on tests and assignments through teacher feedback and evaluative assignments. Learners can learn what minimum performance is and what it takes to move through the satisfactory level to a higher standard of achievement. As learners develop self-evaluation skills they usually begin to develop a more positive self-concept, which is essential for success in most jobs.

Vocational teachers can encourage learners to develop self-evaluation skills by designing learning and testing experiences that require student self-evaluation before teacher evaluation occurs. For example, a teacher could design a checklist for the student to use in evaluating a product generated from an instructional experience such as the creation of a dress in an industrial sewing class. The checklist could have two rating columns, one for the learner to use and one for the instructor to complete after the student responded. Once both learner and teacher evaluate the product a friendly, supportive discussion should occur in which evaluation points and ratings are discussed. By following this procedure students can polish their self-evaluation skills.

A third benefit to special needs learners is that evaluation activities are important learning experiences in themselves. Announced tests and evaluation activities can encourage students to review and perhaps study material for the first time, which helps them to organize and understand concepts and principles essential in completing vocational tasks. As students prepare for tests, they are often able to identify the important content of a lesson or learning unit and relate newly learned materials to previous learning in order to form a bigger picture of an instructional area. Student learning occurs in taking tests as concepts are rein-

Figure 10.1

BENEFITS DERIVED FROM EVALUATIONS


Special Needs Student Evaluation System
Benefits to Students
Benefits to Teachers
Benefits to Parents and Employers
Motivation to Achieve
Self-evaluation Skills
Instructional Experience
Diagnostic Skills and Information
Instructional Starting Point
Basis for Remediation
Competency Certification
Measure of Teaching Effectiveness
Information to Parents
Information to Employers

forced and the application of learned material is provided.

Vocational teachers can promote learning through evaluation activities by emphasizing that they are learning experiences and by making them fun and rewarding when possible. Teachers can help students improve their performance on tests by teaching them how to prepare for and take examinations.

The fourth student benefit derived from a well-designed evaluation system is that students can diagnose or recognize and judge what concepts and tasks they have mastered and which ones need more work. Special needs learners, with initial help from teachers, can identify commonly made errors and make adjustments in their study habits and the way they view content.

Vocational teachers can make evaluation activities diagnostic for students by providing them with prompt feedback and by requiring students to review their test results and look up concepts they missed on test items. One way teachers can encourage student involvement in the diagnostic function is to award points toward the final course or individual student program grade for student effort in reviewing test results and correcting errors.

Benefits to Teachers and Support Personnel

Vocational teachers and other school support personnel involved in working with special needs learners also receive benefits from a well-designed evaluation component. The first major benefit is that teachers can identify an instructional starting point. Teachers can prepare appropriate pretests and other initial measurement instruments to determine the approximate student starting point in an instructional area. For example, the vocational teacher can choose the first learning objective or goal from a disadvantaged student's IPP and construct and administer a quiz or test covering the major concepts of the unit dealing with this objective. The quiz or test results can be reviewed by both teacher and learner and a joint determination made concerning a tentative starting point for instruction.

A second benefit is that teachers are provided with information that can be used as the basis for remedial instruction for a special needs learner. By studying the results of a given test, vocational teachers and support personnel can spot the gaps in learner knowledge and skills and determine what must be done in the remediation process. Special needs learners must be involved in reviewing their test results and in determining what course of action is needed to correct deficiencies.

A third benefit vocational teachers derive from the evaluation component is a form of learner competency certification. Once instruction inherent in the IEP or IPP has taken place, vocational teachers can design and administer a competency test to verify the level of competence on specified goals and objectives for each special needs learner associated with their career choice. These test results can be recorded on a competency record and can be used as a type of certification which students can use in seeking employment.

The final benefit teachers receive is information about teaching effectiveness. Not only are students provided with a valuable learning experience in the form of tests, but teachers are provided with an effective teaching tool if used appropriately. By reviewing student test results, vocational teachers can determine what instructional strategies, methods, and techniques worked with special needs learners and what did not. Teachers can determine how well they covered the instructional material, what needs to be improved or reinforced, and how they can make their instructional activities more interesting and effective for special needs learners as well as other vocational students.

Benefits to Parents and Employers

Parents of special needs learners can receive benefits from the evaluation effort. Parents can be assured that the testing, evaluation, and grading system is appropriate for their son or daughter because they have direct input into its formation if they become involved in planning the IEP or IPP. Vocational teachers can actively involve parents in the evaluation process by encouraging them to help their sons or daughters study for tests and complete homework assignments. Student test results can be shared with parents so they can assist in correcting deficiencies and improving the study habits of their children. Parents can be instrumental in the motivation of their children toward higher achievement through appropriate words of encouragement and understanding if vocational teachers communicate with them.

Prospective employers of special needs learners also benefit from an effective student evaluation component. When vocational teachers use a variety of measurement and evaluation activities and report student achievement in terms of competency attainment in addition to grades, prospective student employers have a better idea of what the applicant can do. Many employers feel uneasy in making employment decisions when they are provided with a student's grade transcript without other achievement indicators. It is important to note that student achievement information must be cleared by the parents before it is forwarded to a prospective employer.

The transfer of personal information about learners is a topic not well understood by many. The irresponsible transfer of personal information about individuals has led to the passage of federal, state, and local laws to regulate the dissemination of information gathered on individuals. There are several notable pieces of legislation that regulate the flow of information about people. The Family Educational Rights and Privacy Act of 1974 (Public Law No. 93-380) (FERPA), commonly known as the Buckley amendment, is one of these laws that applies to all learners. The Education for All Handicapped Children Act of 1975 (Public Law No. 94-142) also contains sections regulating the flow of information of handicapped learners only.

Section 504 of the Rehabilitation Act of 1973 protects the information concerning handicapped individuals. In general, these pieces of legislation prohibit the transfer of student information without the consent of learners who are over 18 years of age or without the consent of the learner's parents or guardians when learners are under the age of 18. Under Public Law 94-142, handicapped learner information gathered specifically to develop the IEP may be disseminated only if the parent or student give their consent. Under the provisions of FERPA, secondary learner information may be transferred to postsecondary schools to which the learner has applied without the consent of either the learner or parents when certain conditions are met. Readers should review sections 99.31 and 99.34 of FERPA for a discussion of these conditions. Under FERPA, individuals working with a learner are granted the right to access information concerning that learner. However, that individual cannot transfer information gained to a third party whether it be a teacher, employer, or agency representative.

As a result of the impetus of legislation, many states and localities have drafted interagency agreements that outline the roles and responsibilities of vocational education, special education, and rehabilitation services in providing comprehensive vocational services for handicapped individuals. These agreements do assure that the rights of handicapped persons will be protected in compliance with the mandates mentioned above. However, most of these agreements provide for the exchange of pertinent information to individuals working directly with the handicapped person.

PERSPECTIVE ON EVALUATION

While testing, evaluation, and grading methods specifically developed for special needs learners can render more accurate information about student achievement, caution should be exercised in thinking that this information is unquestionable. Tests and other measurement devices cannot be used to measure everything of importance, and what they do measure is usually limited to a sampling of expected behavior.

Tests are better perceived as teaching tools. They provide a good deal of useful information for students, teachers, parents, and prospective employers. Test results, however, should be viewed as only one type of systematically obtained information upon which to make judgements about students. This point of view was expressed by the National Commission on Secondary Vocational Education in their report entitled *The Unfinished Agenda* as follows:

> Achievement testing dominates measurement of student performance in basic academic subjects. Knowledge is subdivided into discrete units, delivered in curriculum modules, and monitored at regular intervals through standardized tests. We urge that such tests not be the sole criterion of school and program effectiveness. There is more to teaching and learning than high achievement scores. Schools and vocational education programs help young people achieve personal, intellectual, social, and career goals. Achievement tests measure student success in only one small area of one of these goals; they should be only one small part of the student's performance assessment. (pp. 16–17)

THE IEP AND IPP AS GUIDES FOR EVALUATION

The overall guide for evaluating handicapped learners enrolled in vocational programs should be the vocational component of the individualized education program (IEP). Likewise, the guide for evaluating disadvantaged learners is the individual prescribed program (IPP). The IEP and IPP contain a list of goals and short-term objectives that relate to the needs and abilities of students in relation to a predetermined job or career. Evaluation should be based on the progress or achievement that these students have demonstrated in successfully accomplishing the content specified in the IEP or IPP.

The rules and regulations of Public Law 94-142 specify that the short-term objectives of the IEP be evaluated at least once annually. This is a minimal standard, however, for it is inconceivable that teachers would allow a year to pass before evaluating student progress toward accomplishing the objectives specified in the IEP. If teachers only evaluated student progress on the IEP annually, they would not be able to recognize problem areas and make appropriate adjustments in the objectives of the IEP, teaching techniques, instructional materials, classroom and laboratory environment, and support services, which are often required to help special needs learners achieve their maximum potential. Evaluation must become an integral part of the daily teaching-learning progress and not simply an exercise that occurs at the end of a specified grading period.

ESTABLISHING THE EVALUATION SYSTEM

Vocational teachers will need to plan which factors they will consider in evaluating each special needs learner. The IEP and IPP can be useful tools for planning and implementing the evaluation system. During the preparation of the IEP and IPP, the teachers should discuss evaluation and grading practices used in the instructional program with other team members or support staff. This discussion should include (a) the factors to be evaluated, (b) the criteria for each factor, (c) the methods that will be used to evaluate each factor, and (d) the way that grades will be determined. Special education teachers, disadvantaged specialists, and other IEP or IPP team members can provide information about how they believe the student will respond to the tentative evaluation system and what problems might occur in assessing each evaluation factor.

Using the cooperative planning team approach to establish an evaluation and grading system yields a number of advantages. First, vocational teachers can receive input from others in determining which factors should be included and which standards of performance should be required for the student to earn a passing grade. Second, vocational teachers can receive some idea of what assistance or support services they can receive from support personnel in preparing students for evaluation. Third, support personnel can provide valuable tips on evaluation methods and techniques that may be needed to enable the student to demonstrate achievement more accurately. For example, it may be necessary to print tests in large type to aid visually impaired persons, to allow more time for mentally handicapped learners to take a test or demonstrate a competency, or to provide remedial assistance and reinforcement for academically disadvantaged learners in preparing for a test. Finally, the team approach provides an extra stimulus to base evaluation and grading practices on specified proficiencies in the IEP and IPP, which assures that the evaluation system will assess each student's performance against predetermined standards rather than upon how well that student performs compared with other students.

EVALUATION TOPICS

Many factors should be considered when evaluating student progress in vocational programs. Some of these major factors are:

1. Task or competency performance
2. Work habit development
3. Attendance
4. Attitude and personal growth
5. Daily class effort
6. Quality of homework and outside assignments
7. Performance on quizzes and tests measuring cognitive achievement
8. Safety practices
9. Completed projects or products.

Many vocational teachers make use of multiple factors in their evaluation and grading systems. They have found that including a variety of factors provides an incentive for students to develop proficiencies in the three major areas that concern employers: skill performance, theory or understanding as required to perform work tasks effectively, and work attitude and work habits as required to become a good employee.

The practice of using multiple factors in the evaluation and grading system provides several advantages for special needs learners. First, it provides students with a guide to the type of behaviors expected in the program. If students are aware that their grades will be based on daily work performance, demonstration of good work habits and a positive attitude, quizzes and written tests, and performance of required tasks or competencies, they may address more attention to these areas. The second advantage is that it provides some components that can be covered through remedial instruction by support personnel to improve student performance. A third advantage is that it provides a way of earning a passing grade in a class even though a student may do poorly on one factor, such as quizzes or tests. Finally, using a variety of evaluation factors makes it possible to provide more specific feedback to the student about areas of strength and weakness in preparing for employment. It also provides direction to the teacher for altering the instructional approach or learning environment. Additional information on using multiple evaluative factors is presented in the grading system segment of this module.

EVALUATION METHODS

Vocational teachers can select from a variety of measurement, evaluation, and reporting methods and techniques to measure the progress of special needs learners. The first method involves the use of a sequenced series of individualized units that contain specific competencies. As the student demonstrates each competency, the vocational teacher evaluates performance and records it on a proficiency profile. See Figure 10.2.

Student-Teacher Contracts

Another evaluation method involves developing and using student-teacher contracts for a specified grading period. The contract is developed by the vocational teacher with input from the student and resource personnel. It describes the tasks to be performed, the minimum accepted performance levels, and the amount of time required to complete the contract. The student and teacher discuss the contract before signing it. As the student completes each component of the contract, his/her performance is evaluated according to specified criteria included in the contract. At the end of the contract period, the teacher and student jointly evaluate progress and arrive at a fair grade. Performances not completed successfully can be included in the contract for the next grading period. Figures 10.3 and 10.4 show a sample performance contract and performance checklist.

Pencil-paper Tests

The final method discussed in this module is measuring cognitive achievement through pencil-paper tests. Vocational teachers need to identify an appropriate unit of instruction or block of content from the special needs student's IEP or IPP and develop a pool or bank of test items. These items can be written on 3 × 5 index cards and placed in an organized, mechanical test file, or they can be coded and placed on a microcomputer diskette for later test preparation. It is probably best to use recognition items such as matching or multiple choice to reduce student requirements for written responses.

Test preparation is relatively easy provided vocational teachers have an adequate bank or pool of test items covering content taught in their instructional areas. If the items are stored mechanically in a test file, the vocational teacher need only select the appropriate items for a specific test and have them typed, duplicated, and prepared for administration. It is even easier to prepare tests if the vocational teacher has stored test items on microcomputer diskettes. The instructor simply inserts a test generation program along with their data disk containing items into a microcomputer and follows the prompts to generate an appropriate test for a given special needs student.

A number of test generation software programs are available for different microcomputers. One example is *The Teacher's Pal*®, available from Southwestern Publishing Company. Easy-to-use software programs, such as *Quiz Quiz*®, available from Radio Shack, allow students to take the test on the microcomputer.

Pencil-paper tests are by far the most common form of testing administered in vocational education with performance tests in second place. Performance tests are fairly easy to construct and administer. Most students can perform at the satisfactory level or above, but these tests have limitations. A pencil-paper test can only indicate if learners know how to do a task and not whether they can actually do a task. Also, written test results give a distorted picture of a student's level of achievement if the student has reading deficiencies, a poor vocabulary, or difficulty following directions. Steps that vocational teachers can take to reduce these

Figure 10.2

SAMPLE PROFICIENCY/COMPETENCY PROFILE

Student: Isabelle Anderson Date: 9/85

Instructor: June Sullivan Program/Course: Food Service

Module: Short Order Cooking – Breakfast Preparation

			Evaluation		
Competency/Skill	Date Completed	Instructor Initial	Needs Assistance	Adequate	Very Good
Prepares juices	1/9/85	J.S.	5	6, 7	1, 2, 3, 4
Prepares hot cereals	1/21/85	J.S.	6, 7	1, 5	2, 3, 4
Prepares cold cereals	2/12/85	J.S.		4, 6, 7	1, 2, 3, 5
Prepares eggs	2/25/85	J.S.	6, 7	4, 5	1, 2, 3
Prepares omelets					
Prepares breakfast meats					
Prepares breakfast fruits					
Prepares breakfast breads/baked goods					
Prepares coffee					
Prepares tea					

General Criteria for Evaluation Tasks

1 – Planned work
2 – Followed directions
3 – Followed safety rules
4 – Followed correct procedures
5 – Used kitchen equipment correctly
6 – Quality of work/product
7 – Rate of work

Comments:

Figure 10.3

PERFORMANCE CONTRACT

Student: Francis Joseph **Date:** 10-14-85

Program: Residential Wiring

Instructor: Joe Smith

Unit/Module: Switching Circuits

Approximate Time for Completion: Six weeks

Criteria: Must meet performance checklist criteria for each task

Task/Assignment	Date Completed
1. Install 110V lamp controlled by a special switch.	
2. Install 2 - 110V lights in parallel.	
3. Install 110V lights and duplex receptacle in parallel with light controlled by special switch.	
4. Install 1 - 110V light controlled by two 3-way switches.	
5. Install 1 - 110V light controlled by two 3-way switches and one 4-way switch.	
6. Install 1 - 110V light controlled by two 3-way and two 4-way switches.	
7. Install a circuit with 4 receptacles and 1 special switch so it controls 1 receptacle while others remain hot.	
8. Install a light dimming system.	

Comments: (include pertinent comments and suggestions about handicap from the student and support personnel.)

Francis has limited use of his left arm. He cannot use this arm for any tasks requiring strength and power. He has exceptional strength in his right arm and can perform most tasks using it. Adaptations may be required for tasks requiring two arms.

Date	Student Signature
Date	Instructor Signature

Figure 10.4

TASK PERFORMANCE/PRODUCT RATING CHECKLIST

Task or Competency Install a Single Switch/Single Light Circuit **Unit**__________

Student____________________________________ **Date**______________________

Directions: Rate the student's level of performance on each indicator by placing an "I" in the upper diagonal portion of the box if you are the instructor and an "S" in the lower diagonal portion of the box if you are a student.

Level of Performance

PERFORMANCE INDICATORS	0	1		3	4
	N	P	F	G	E
1. Prepared and used schematic					
2. Selected correct tools, equipment & materials				I / S	
3. Wore protective clothing & equipment					I / S
4. Followed proper sequence of steps				I /	/ S
5. Technique in using tools & equipment					
6. Installed components properly					
7. Checked work with instructor before energizing					
8. Light and switch work properly					
9. Time taken for completing job					

Level of Performance

All items must receive Good or Excellent responses. If any items received a None, Poor, or Fair response, the learning or part of it must be repeated. Discuss this with your teacher.

0	1	2	3	4
U	D	C	B	A

Student Signature____________________________ **Teacher Initial**________________ limitations will be discussed under evaluation techniques.

The most common formats used in pencil-paper tests are completion, matching, multiple-choice, true-false, and essay. Each of these items has advantages and limitations. The completion item is easy to develop but requires students to generate a written response. Because students respond differently to a given item and are required to write the answer, scoring completion items is difficult. Matching items involve two columns of related information, which require students to associate content in column I with responses in column II. They are somewhat difficult to write and can be difficult for students to complete. The multiple choice format is usually considered the most desirable to measure a wide range of content at different learning levels. It provides the student with a stem, usually expressed as an incomplete sentence or a question, followed by 3 to 5 responses, one of which is correct; the balance of responses are plausible but incorrect. These items are somewhat difficult to write but easy to score and are relatively easy to computerize. The true-false item is limited to factual information and single-concept information. Since students either respond true or false to the item, the chance of guessing the correct response without knowing the true answer is high. Some teachers feel these items are easy to write. On the contrary, effective true-false items are difficult to write. Essay tests are easy to write but hard to score. They usually require students to write sentences and paragraphs, which require higher level cognitive skills in addition to recalling concepts.

Several good textbooks for measuring student achievement in vocational education are listed in the reference section of this module along with a number of professional vocational education textbooks that contain chapters on evaluation. These sources contain useful information for developing pencil-paper tests, performance tests, rating devices, and other measuring instruments, as well as suggestions on how to measure and evaluate achievement in vocational education.

EVALUATION TECHNIQUES

Many techniques can be used to evaluate the different types of behaviors demonstrated in vocational programs. Figure 10.5 shows a number of different behaviors with accompanying evaluation techniques.

Performance Tests

Most vocational educators are concerned with measuring the student's ability to complete tasks that are similar to those performed daily by workers. Many of these work tasks involve hands-on performances or the application of motor and interpersonal skills. For example, if a special needs learner enrolled in a distributive education program is to perform the task of transacting a sale with a customer, the best way to determine whether the student can perform the task is to administer a performance test in a simulated or real work situation. Performance tests can be administered to measure either a complete, simulated task, or a work sample that is actually a segment of the task.

Worker tasks usually involve carrying out a number of performance steps in order to complete a job or produce a product. Therefore, performance tests must consider whether the process of performing the task should be measured, the end product alone, or both. For example, in a business education class the vocational teacher may be interested only in the product—a typing assignment. A vocational teacher assessing a health occupations student who is administering CPR will be interested in both the process and the end product. Many vocational education tasks or competencies will require both process and product evaluation.

Some general guidelines can be used to determine whether process or product evaluations are most appropriate for a learning experience. Process evaluation is most appropriate when (a) the usage of tools, machines, and equipment are most appropriate, (b) health and safety hazards are involved, (c) time on task is a primary consideration, and (d) interior operations or parts are hidden in the final product. Product evaluation is most appropriate when (a) the end product or result of task performance is more critical than the procedure, (b) several possible alternate procedures or processes could be used to produce the final product, and (c) the process is difficult to observe and measure.

Performance tests are perhaps the strongest measure of student achievement since there are no intermediate tasks between what students are taught to perform and how they are evaluated. However, performance tests are time-consuming to administer and usually require a one-to-one teacher-student focus. In addition, they do require adequate equipment and a large inventory of consumable supplies. Because of these limitations, vocational teachers may choose to use performance tests primarily for those tasks that are difficult to assess by other measurement techniques or those that do not consume materials. A suggested time to administer a comprehensive performance test may be at the completion of each objective in a student's IEP or IPP. This may involve a broader competency or job involving a number of learning tasks. This practice provides

Figure 10.5

BEHAVIORS TO BE EVALUATED AND EVALUATION TECHNIQUES

Behaviors to be evaluated	Evaluation techniques
Cognitive Achievement	Oral or written test containing a variety of test items such as True-False, Completion, Essay, Multiple Choice, and Matching.
Manipulative Performance	Observations of task performance using a checklist or rating device.
Safety Procedures	A number of techniques can be used to evaluate this behavior including written test, performance test and observation.
Work Habit Development (i.e., initiative, industriousness, concentration, organizes work, etc.)	Observation of work habit skills using a rating device.
Attitude	Pencil-paper inventory tests or through observation and the use of checklists and rating devices.
Completed Project or Product	Measured by student and teacher using a rating sheet which describes criteria and performance levels.
Reports, Homework and Outside Assignments	Measured by teacher and student according to some stated criteria.
Classroom and Laboratory Work Behavior	Measured by the teacher using a progress sheet containing behavior indicators.

a form of competency certification for students.

Many learning tasks in vocational education involve considerable manipulative performance, although other types of learning are involved as well. The student must be able to recall and apply knowledge of tools, materials, and processes in order to complete tasks. Students must also be able to demonstrate good work habits and safety practices such as following directions, organizing their work, and observing safety rules in order to complete tasks in a safe manner according to predetermined standards.

In evaluating the performance of special needs learners on required tasks and competencies, vocational teachers must develop performance rating devices if they are not already available. Figure 10.6 shows a sample rating device for the task of charging an automobile battery.

In order to develop a performance rating sheet for each of the tasks and competencies the vocational teacher should use the following procedures:

1. Select the task or competency to be evaluated.
2. Select the criteria to be used to determine successful performance of the task. These criteria should be a true reflection of industry standards. They consist of task steps, points, items, and concepts representing successful performance of the task according to industry standards. For example, Figure 10.6 contains the criteria of "followed all safety practices" for the task of charging the battery. Notice that the criteria in Figure 10.6 address both the *process* of charging the battery and the end *product* of a fully charged battery. The eventual success of graduates will depend upon how tasks are performed as well as the quality of the end product or service.

As a starting point, it is helpful to review the steps involved in performing the task or competency. This should be followed by listing all the criteria that are appropriate for a particular task. The final step is to choose the criteria that will be included and place them in correct order and written form.

3. Validate the criteria for each task or competency. Although vocational teachers are qualified experts in their occupational field and are knowledgeable about industry standards for task performance, it is good practice to have task criteria validated by appropriate members of a craft advisory committee,

practitioners in the field, or by other vocational teachers in a similar program.

4. Establish a level of performance for each task or competency. A system that provides a method to determine how well special needs learners meet each criteria should be selected. The example shown in Figure 10.6 shows the levels of performance for the criterion to be *none, poor, fair, good,* and *excellent.* These levels can be assigned a number, which can later be converted into a letter grade, if desired.

The level of performance must also consider the total number of criteria as an indicator of successful performance of the task. The example shown in Figure 10.6 indicates that all criteria must receive a response of *good* or *excellent* and gives direction to the student if this level is not met.

5. Construct the task performance rating instrument. In constructing the rating instrument, the vocational teacher simply writes the directions and includes the criteria and level of performance developed in steps 2 through 4 of this procedure. If desired, the vocational teacher can include an additional step in the rating instrument—a conversion table for translating numbered criteria into letters for the grading system.

The use of this type of task performance assessment instrument makes it possible to implement a competency-based instructional program. Either (1) the special needs learner develops the competency and performs the task at the established level of performance and is allowed to continue on to the next task,

Figure 10.6

PERFORMANCE RATING SHEET

Charge a Battery

Assessment: **Rate the student's level of performance on each of the following performance components involved in charging an automobile storage battery. Indicate the student's level of accomplishment by placing an "X" in the appropriate column under the Level of Performance.**

	Level of Performance				
	None	Poor	Fair	Good	Excellent
The Student:	0	1	2	3	4
1. Tested the battery . . .					
2. Cleaned the battery . . .					
3. Followed the correct procedure . . .					
4. Followed the safety practices . . .					
5. Cleaned and returned all tools . . .					

The Battery:

6. Showed a full state of charge . . .

Level of Performance

All items must receive Good or Excellent responses. If any item received a None, Poor or Fair response, the learning experience, or part of it, must be repeated. Discuss this with your teacher.

0	1	2	3	4
U	D	C	B	A

or (2) the learner cannot perform at the acceptable level of performance and must engage in additional activities in order to meet the predetermined standard. This technique can be easily and effectively coordinated with the vocational segment of the IEP for handicapped students and IPP for disadvantaged students.

Observation Techniques

Observation techniques are also widely used in evaluating behaviors that are common to most vocational programs, such as classroom and laboratory behavior, work habit development, and safety procedures. Figure 10.7 shows a summary student safety behavior checklist for a machine shop program. Each safety behavior is evaluated by written tests or performance tests involving observational techniques.

Observation rating sheets should contain necessary administrative information such as the student's name, subject, or behavior to be rated. The columns on the rating sheet should indicate behaviors to be observed, a scale of scoring options, a place for both students and teachers to rate behaviors, a comment section, and a place for students and teachers to sign. Figure 10.8 shows an example classroom and laboratory behavior checklist that could be used in all vocational education programs.

Peer Evaluation Techniques

Vocational teachers often do not have the time to evaluate the progress of each student when it is needed. This is particularly true for teachers who administer large numbers of performance tests in laboratory settings. One of the best evaluation methods for special needs learners is the performance test. However, the performance test requires a great deal of the teacher's time because these learners often progress more slowly than other learners. A good solution to this problem is to use students who have mastered specific learning tasks and performance tests to evaluate the task performance of special needs learners.

The practice of using student or peer evaluators is instructionally sound. Peer student evaluators and special needs learners being evaluated both receive reinforcement of program content through the evaluation experience. The peer evaluator feels competent and useful by being selected as an evaluator and is provided with an opportunity to build self-esteem. The peer evaluator is provided with an additional opportunity to learn and practice evaluation skills. Special needs learners often perform better under the observation of peer evaluators because they are less threatened and feel more at ease. Special needs learners are provided with an additional opportunity to develop closer relationships with other students. The peer evaluation relationship frequently fosters enthusiasm, motivation to achieve, confidence, improved performance, and more positive attitudes toward school.

Peer evaluators can be selected from students in the same class or can be recruited from advanced classes or from volunteer students who have expressed an interest in teaching as a career. When peer evaluators are selected from outside the regular vocational class, schedules must be arranged cooperatively with other teachers and cleared by the administration.

Vocational teachers must prepare peer evaluators before scheduling performance evaluations. Peer evaluators should be trained in observation techniques, performance tests, and performance rating instruments. Teachers should supervise the first peer evaluation session closely and help develop the student evaluator to a satisfactory level of competence. Once trained the peer evaluator could be used to review for tests, administer written and performance tests, summarize test results, and record student progress. Teachers should administer terminal performance tests and use peer evaluators for intermediate evaluations.

ALTERNATE EVALUATION TECHNIQUES

The previous information in this module addressed common methods and techniques for measuring and evaluating the behavior and performance of all vocational students. Frequently, however, these methods and techniques need to be altered to meet the evaluation needs of special needs learners.

Vocational teachers, with assistance from other school support personnel, must identify the appropriate assessment techniques for each special needs learner. In formulating the evaluation component for special needs learners, the team should identify special needs that would present problems in assessing student knowledge and performance. If some are identified, consideration should be given to modifying the evaluation methods, techniques, and materials to better fit the student's level of physical, cognitive, emotional, and sensory functioning.

Modifying Measurement and Evaluation Techniques

Many ways to alter or modify measurement and evaluation techniques to meet individual student needs exist. These are listed as follows:

1. Give open book and materials tests.
2. Read test items to students and have them respond orally or in writing.
3. Administer taped tests—students listen to a pre-

Figure 10.7

SAFETY CHECKLIST

Student: ____________________

Instructor: ____________________

Program: Machine Shop

Criterion: The student will demonstrate appropriate safety techniques in each of the following areas with 100% accuracy prior to working independently in the laboratory.

Safety Area	Date	Instructor Initials	Student Initials
1. General Safety Rules			
2. Hand Tools			
3. Engine Lathe			
4. Turret Lathe			
5. Vertical Milling Machine			
6. Horizontal Milling Machine			
7. Drill Press			
8. Radial Drill Press			
9. Horizontal Band Saw			
10. Vertical Band Saw			
11. Pedestal Grinder			
12. Surface Grinder			
13. Numerical Control Machine			
14. Heat Treating Equipment			
15. Fire Extinguishers			
16. Emergency Exit Charts			
17. Emergency Exit Procedures			
18. Emergency Electrical Circuit Breakers			

Comments:

____

Instructor Signature

Figure 10.8

CLASSROOM AND LABORATORY BEHAVIOR CHECKLIST

STUDENT:________________________________ DATE:____________________

SCALE:	5 – Excellent	DIRECTIONS:
	3 – Adequate	Student circles rating.
	1 – Poor	Teacher underlines rating.

BEHAVIOR/INDICATORS

1.	Participates in class discussions	5	4	3	2	1
2.	Completes class assignments on time	5	4	3	2	1
3.	Respects rights of others	5	4	3	2	1
4.	Listens attentively	5	4	3	2	1
5.	Values time/time on task	5	4	3	2	1
6.	Takes pride in work	5	4	3	2	1
7.	Takes care of equipment	5	4	3	2	1
8.	Neat and orderly	5	4	3	2	1
9.	Attendance – on time	5	4	3	2	1
10.	Works well with others	5	4	3	2	1
11.	Hasa positive attitude about his/her service or training area	5	4	3	2	1
12.	Works safely	5	4	3	2	1
13.	Follows directions	5	4	3	2	1
14.	Asks for help when needed	5	4	3	2	1

Student Totals

Instructor Totals

Comments:

Student Signature________________________ Instructor Signature____________________ recorded tape of the test and respond in writing, on automatic scoring sheets, or orally on recorded tape.

4. Assign a take-home test.
5. Have students generate tests.
6. Have designated students administer tests.
7. Provide alternate projects and assignments.
8. Decrease the number of items on a special needs student's test.
9. Increase the time to complete tests.
10. Videotape student performance on tasks and compare it to a taped model performance.
11. Use a panel of judges, possibly advisory committee members, to evaluate task performance.
12. Use overhead projector and transparencies to present test items that students can respond to orally.
13. Administer practice tests to reduce student fear on newly learned material.
14. Construct and administer test via the microcomputer so students can take the test on the computer.
15. Administer tests to small groups.
16. Have students give oral reports.
17. Reduce reading requirements in test items and test directions.

Figure 10.9 shows modified test items and test directions.

Modifying Test Items and Directions

The modified measurement technique of reducing the reading requirements in written tests for special needs students deserves individual attention. Some special needs students have difficulty understanding test item format, following directions, and reading test items that involve many unnecessary words or phrases. Therefore, it is desirable to keep the directions and test items as short and concise as possible. Directions can be shortened by focusing only on how students should respond to items, and they can be made clearer by underlining key works such as choose or circle the correct alternative that answers the item.

The reading level of test items can be reduced by putting only necessary information in the stem and keeping the alternatives as brief as possible. When possible, use drawings or graphic illustrations on test items calling for students to identify things such as tools or equipment. Figure 10.9 shows typical test items and test format directions and examples of modified ones.

Reducing Fear of Tests and Providing Feedback

Modifying test items and techniques for measuring the achievement of special needs learners will result in more accurate evaluation information and increased student performance. Two other important practices that can lead to improved student achievement are reducing fear of tests, and providing frequent and continuous positive feedback on performance.

Many students become fearful when the words "test time tomorrow" are presented by the teacher. The moments preceding the actual test administration are anxious ones as evidenced by facial expressions, biting nails, and other nervous actions. While the fear students experience in the testing situation may not be entirely eliminated, some techniques the vocational teacher can use to minimize the fear of testing are:

1. Review the scope of the test the day before the test is scheduled to be administered.
2. Explain testing procedures adequately and emphasize how test results can be helpful to students.
3. Explain minimum performance standards and their importance to students.
4. Use words of encouragement and reinforcement.
5. Provide practice quizzes and tests for students when appropriate.
6. Establish a supportive atmosphere during the test administration by friendly smiles and the skillful use of humor.
7. Encourage students to self-evaluate their performance as appropriate.

The second teacher practice that can result in improved student performance on tests and other measurement activities is the skillful use of prompt feedback. Vocational teachers should try to score tests for special needs learners as quickly as possible, preferably with the student present so that immediate feedback is made possible. Other feedback techniques include:

1. Provide feedback to students in a constructive, friendly manner.
2. Provide continuous feedback information to students, such as informing them about recorded observations on classroom and laboratory behaviors, safety behaviors, and other rated behaviors.
3. Use appropriate media to provide visual and auditory feedback, such as transparencies, charts, videotapes, and audiotapes.
4. Summarize all appropriate progress data at least weekly and present the summary to special needs learners and IEP or IPP team members.
5. Communicate to students that it is important to correct errors and to learn from them.
6. Use microcomputer software packages to administer quizzes and tests, which provide immediate feedback as to the correctness of response.

CONSTRUCTING TESTS

The following are some recommended techniques for the actual mechanics of constructing tests, which can

Figure 10.9

MODIFIED WRITTEN TEST ITEMS

Home Economics

Written Test Items	Modified Test Items
Directions:	**Directions:**
For each item below, circle the letter of the response which correctly completes the sentence or answers the question.	Read each item below and circle the letter of the correct answer.
1. Which of the following cooking implements would be best to use with teflon coated pans?	1. The best cooking equipment to use with teflon coated pans is
a. stainless steel utensils	a. stainless steel utensils
b. table utensils	b. table utensils
c. wooded utensils	c. wooded utensils
d. nylon utensils	d. nylon utensils

Trade and Industrial

Written Test Items

Directions:

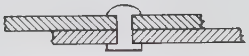
Choose the correct hammer below that is used to install rivets and circle its letter.

- a. ball peen
- b. rawhide faced
- c. brass
- d. plastic tipped

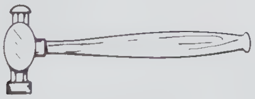
Modified Test Items

Directions:

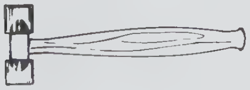
Circle the letter of the correct hammer used to install rivets.



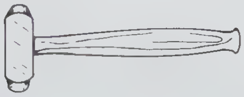
a. ball peen



b. plastic tipped



c. brass



improve measurement instruments used for evaluating special needs learners.

1. Construct an individual test for each special needs learner and place his or her name on it to make it more personal.
2. Involve the student in making up the test, when possible.
3. Type tests using large typefaces and leave adequate spacing to make each item stand out on the page.
4. Place easier test items at the beginning of the test to reduce anxiety.
5. Group similar items together on the test.
6. Repeat the item format directions on subsequent pages of the test.
7. Provide lined paper for tests requiring long responses, such as essay or listing questions.
8. Underline the key words in the directions and provide an example item as part of the directions.
9. Follow sound principles of writing test items listed in testing and evaluation books.

GRADING SYSTEM

The grading system for special needs learners should be based upon progress made on specified objectives for a given grading period. It should be fair and should reflect the competencies developed by each student rather than how well the student performed compared to other students. It should be based on multiple factors and take into consideration student effort as well as achievement. The grading system should provide for student involvement in determining achievement and should be planned by the vocational teacher with input from support personnel whenever possible. The grading system must be manageable and easily understood by students and parents, and must have the support of school administrators.

Characteristics of the Grading System

Following are some characteristics of an effective grading system for special needs learners. The system should:

1. be fair to each student, that is, based on each student's capabilities and achievement level;
2. accurately reflect the competencies developed;
3. be designed to enhance the student's self-concept;
4. include the multiple grading factors of student effort, progress, and achievement;
5. address both quality and quantity of work performed;
6. be easily understood by students, parents, and other teachers;
7. provide for student involvement in evaluating work and determining grades;
8. be flexible to accommodate the changing needs of students;
9. be individualized in order to reduce anxiety and competition over grades;
10. be designed to encourage students to accept more responsibility for their own learning and accomplishments;
11. ease the teacher's burden at determining grades;
12. be designed to assist in cooperative planning activities;
13. be continuous so students can assess their progress in relation to predetermined goals and objectives;
14. be consistent with school system grading policy.

Functions of Grades

Grades are often dreaded by students and teachers alike. However, they serve an important role in the instructional process. They can serve as a source of motivation for students and can keep them informed about their progress in learning or lack of it. Grades can serve as a guidance function in that they can be used to decide whether a student is interested in or prepared for a chosen job or career. Grades also provide a means of communicating the level of student achievement to other teachers, parents, school administrators, and eventually to employers. Grades must be determined carefully so that they provide an accurate picture of student progress in relation to specified objectives that lead to preparation for productive employment.

Grading Techniques

Vocational teachers must develop a fair and impartial system for arriving at grades for special needs learners. In few situations can the teacher simply award a grade of "pass" or "fail," and even if this is the case, there must ultimately be a way to arrive at the decision. In most schools, vocational teachers are expected to grade students on a five-factor scale. This scale may be communicated either as grades or points that stand for levels of performance. The translation of such a reporting system is usually as follows:

Letter	Points	Status
A	4	Excellent
B	3	Good
C	2	Fair
D	1	Poor
F	0	Failure

A number of techniques that vocational teachers can use in determining grades for special needs learners exist. One of these is to grade student work as either satisfactory or unsatisfactory. This system works best when specific performance standards have been established for a learning experience. For example, a floriculture student may be required to take cuttings from plants that are to be 3″–5″ in length and free from disease, broken stems, or other damage. Student work is either satisfactory or unsatisfactory and activities rated as unsatisfactory must be repeated after the student has received appropriate remedial instruction. Satisfactory/unsatisfactory grades often need to be converted into another set of grades such as the *A, B, C, D,* and *F* system. When making this conversion, vocational teachers should consider many factors, including the quality of the work performed, relative importance of the work, quantity of work performed, and possibly the time factor.

The pass/fail grading system is similar to the satisfactory/unsatisfactory system. The criteria for arriving at a student's grade may be the same as in the satisfactory/unsatisfactory grading system or it may be set on another basis. For example, learners working at the *D* level or above are passing and those working below a *D* are failing.

Another grading technique is to use written comments in conjunction with another grading system. This technique is especially useful with special needs learners in that it provides the details and specific information that give a more complete explanation of student performance. Few students, parents, or employers question a student grade of *A,* but they often wonder about *B* and *C* grades. That is, they do not wonder why the grade was an *A* instead of a *B.* Vocational teachers who take the extra time to write comments to accompany the special needs learner's grades will make available information that not only better describes the learner's performance but gives suggestions for improvement. For example, "Susan's work in our food service program is acceptable and has been awarded a grade of *C.* She has mastered the tasks of personal hygiene and sanitation, safety, and tools and equipment. However, she is still experiencing difficulty in weights, measures, and recipes. Our school support teachers are working with her in these areas and she is beginning to make some progress. Susan works slowly and probably would not be able to meet the production demands in the industry at this time, but given enough time and reinforcement she may develop entry-level abilities."

In writing learner comments, begin with positive accomplishments and then indicate areas of weakness. Make the comments specific enough to reflect the learner's progress, yet broad enough to offer an overall assessment of the student's state of development.

Another grading technique is to include skill reports or competency checklists along with the school's official report card. Skill reports are especially valuable to prospective employers who want to know what the student can or cannot do. Figure 10.10 shows a typical skill report.

Another valuable grading technique is to have learners self-evaluate their work against models, examples of completed work, or specification checklists. For example, a secretarial learner's performance on the task of answering the telephone could be self-evaluated against a checklist containing behaviors under the headings of Beginning the Call, Developing the Call, Taking Messages, Closing the Call, and Voice Personality. After students have evaluated their performance against models or checklists they should be able to explain why they evaluated themselves as they did.

The practice of using multiple grades for special needs learners is another grading technique used by some vocational teachers. This technique provides rewards for the overall progress a learner has made even though some areas of achievement may be below the satisfactory level. One type of multiple grading system involves the three areas of present achievement, pretest achievement level, and effort expended.

Figure 10.11 shows a sample multiple grading record from a teacher's grade book. Grades are recorded under each content area assessed during the grading period using a letter grade, which represents present achievement, and two subscripts indicating pretest level and effort expended. In the figure, Marci Scott has earned a grade of *A* in vocational math with a very high pretest achievement level and with only moderate effort. The multiple grading factors could be different from the ones applied in this example. For instance, B_{42} could represent a letter grade of *B* on some subject or competency area with the first numbered subscript representing reading level or math level and the second lettered subscript representing effort. The multiple grading system provides additional information to the student, parent, and teacher and can be used to alter instruction for a given learner to make it more relevant.

Another grading technique that can be used with special needs learners is shared grading. Shared grading is the practice of involving two or more teachers in determining a student grade for a marking period. This system works well when resource or support teachers are working with special needs learners who are mainstreamed into vocational classes.

Performance contracting was discussed as an evalua-

Figure 10.10

SECRETARIAL OCCUPATIONS

Skill Report

Name ______________________ Teacher ______________________

Rating / Skill	Grading Period 1			Grading Period 2			Grading Period 3		
	Above Average	Average	Below Average	Above Average	Average	Below Average	Above Average	Average	Below Average
Process outgoing mail	X			X			X		
Process outgoing bulk mail		X			X		X		
Process incoming mail		X		X			X		
Forward mail			X		X			X	
Handle specialized mail			X		X		X		
Keep postage meter records		X			X		X		
Prepare parcels for mailing		X			X		X		

Grade Conversion:

Excellent	*A*	90–100
Above Average	*B*	80–89
Average	*C*	70–79
Below Average	*D*	60–69

Figure 10.11

SAMPLE MULTIPLE GRADING RECORD (MODIFIED TEACHER'S GRADE BOOK)

Name	Subject	Voc Math		Unit I Safety		Unit II Hand Tools	
1. Erin Porter		B		A		B	
		3	3	4	4	3	4
2. Marci Hughes		A		B		B	
		5	3	3	4	2	4

Code:

Letter = Achievement grade (A–F)
1st Subscript = Pretest level (1–5) – 1 = lowest
2nd Subscript = Effort (1–5) – 1 = lowest

tion method in the module on instructional techniques in this book. A contract is developed jointly between the vocational teacher and the special needs learner, with input from support staff. The contract identifies specific activities to be completed by the student at set performance criteria. The vocational teacher should consider the student's abilities, achievement level, and other factors of the IEP and IPP in planning the grading contract.

Another grading technique is to encourage students to correct their work by awarding up to one-half the points originally deducted for corrected work. This practice is facilitated if adequate space is provided between test items for corrections on test instruments.

A final grading technique is to use different rubber stamps or stickers to summarize student progress. Grading stamps are available with different characters and messages to indicate performance levels. The use of these graphic stamps or stickers often has the same motivational effect that attendance stars have for the elementary grade school student.

MARKING SYSTEMS

The two general categories of marking systems are the point system and the averaging system.

Point System

In the point system, each evaluation factor and its variables, such as written tests, safety tests, and classroom behavior, is awarded a certain number of points. These point values represent the total number of points that a student can earn in a given marking period. Figure 10.12 shows a typical summary of a point system for determining grades in a vocational program.

Points earned for different evaluation factors can also be weighted to reflect the value and importance of each type of performance. For example, performance on tasks or competencies is usually given more weight in the grading system than other factors. Figure 10.13 shows a weighted point system for determining grades in a vocational education program.

In establishing a point system, vocational teachers, with input from the support personnel, should review each special needs learner's IEP or IPP and decide what evaluation factors should be included in a new marking period. They should assign point values to each evaluative factor after determining which factors are most important. They should also determine the point limits for letter grades.

The vocational teacher can use past experiences with other students in determining the upper and lower limits of the point system as a general guideline. However, it is important to consider the abilities of the special needs learner as well as the student's IEP and IPP in establishing the point value system.

There are several methods that can be used to determine the point limits for letter grades. One way is to determine the lower limit of the *A* level and the lower limit of the *D* level for a special needs learner. As an example, Figure 10.13 shows the lower limit of the *A* level to be 90 weighted points and the lower limit of the *D* level to be 60 weighted points. The next step is to set the lower limit of the *C* and *B* grade levels. Experience has shown that a good distribution of marks usually results by subtracting the lower limit of the *D* mark from the lower limit of the *A* mark and dividing this value by three to determine the points for each grade level.

Using the values shown in Figure 10.13, an example would be 90 − 60 = 30, and 30 ÷ 3 = 10. To determine the lower limit of the *C* grade level, add 10 to the lower limit of the *D* mark, which gives a value of 70. To determine the lower limit of the *B* grade level, add 10 to the lower limit of the *C* mark. The completed table is shown in Figure 10.13.

The second method for determining point limits for letter grades is similar to the first but uses a different mathematical procedure. Figure 10.12 contains an example of a point conversion chart calculated by this method. The first step is to use the maximum number of points that can be earned as a starting point. In the example, this value was 1,000 points for the upper limit of the *A* grade level. In order to establish the lower limit for each grade level, divide the upper limit of the *A* level or the maximum point value of 1,000 in the example by 5, which yields a value of 200 points. The resulting table is shown in Figure 10.14.

Averaging System

The second major system that can be used to determine grades for special needs students in a given marking period is the averaging system. Each evaluation factor and activity, such as task performance and performance test, is evaluated against a common base (highest achievement as 100%) and given a relative weight in relation to other activities and factors. The total is averaged and the final grade determined by comparing it against the school's marking system. For example, the school may follow the limits of 90%–100% equals an *A* grade. Figure 10.14 shows an example of a marking system using the averaging system.

The vocational teacher, in cooperation with the support personnel, will need to decide which grading system is the most appropriate for meeting school

Figure 10.12

POINT SYSTEM FOR DETERMINING GRADES

Evaluation Factor		Points
Task Performance (10 tests @ 30 points each)		300
Written Exams (3 exams @ 100 points each)		300
Work Habit Development (10 observations @ 20 points each)		200
Attitude and Effort (10 observations @ 10 points each)		100
Outside Assignments (5 evaluations @ 20 points each)		100
	TOTAL	1000

Point Conversion Chart

Points	Grade
800-1000	A
600-799	B
400-599	C
200-399	D
0-199	F

Figure 10.13

WEIGHTED POINT SYSTEM FOR DETERMINING GRADES

Evaluation Factor	Points	Weight	Weighted Points	Percentage of Total Weighted Points
Task Performance (10 tests @ 30 points each)	300	.20	60	60%
Written Exams (3 exams @ 100 points each)	300	.05	15	15
Work Habit Development (10 observations @ 20 points each)	200	.05	10	10
Attitude and Effort (10 observations @ 10 points each)	100	.05	5	5
Outside Assignments (5 evaluations @ 20 points each)	100	.10	10	10
TOTAL	1000		100	100%

NOTE: Weights can be arbitrarily assigned or they can be assigned on the basis of percentage of total weighted points. This can be calculated by converting weighted points on a 100-point scale, which reflects the desired percentage value. The weights can then be determined by dividing the weighted points by the total points assigned to each factor. For example, task performance was given a percentage weight of 60% in the chart above or a weighted point value of 60. The weight value was calculated by dividing 60 by 300, which gives a weight of .20. To determine a given student's weighted point value for any factor, multiply the total points earned by the assigned weight. To avoid small numbers, multiply by a value of 2 to convert the 100-point scale to 200.

Point Conversion Chart

Points	Grade
90-100	A
80-90	B
70-80	C
60-70	D
Below 60	F

Figure 10.14

AVERAGING SYSTEM FOR DETERMINING GRADES

Evaluation Factor	Relative Weight	Maximum Points
Task Performance (10 tests @ 30 points each)	50%	300
Written Exams (3 exams @ 100 points each)	20	300
Work Habits (10 observations @ 20 points each)	15	200
Attitude and Effort (10 observations @ 10 points each)	5	100
Outside Assignments (5 evaluations @ 20 points each)	10	100

STUDENT EXAMPLE

Example of How to Calculate a Factor

Three Unit Written Exams
Exam 1 - 24 out of 30 points converted to 100% scale (24 ÷ 30 = .80)
Exam 2 - 45 out of 50 points converted to 100% scale (45 ÷ 50 = .90)
Exam 3 - 38 out of 40 points converted to 100% scale (38 ÷ 40 = .95)
2.65

Total = 2.65 2.65 ÷ 3 = .88 or 88%

To arrive at final weighted grade for exams, multiply 88 × 20 (assigned weight) = 176.

Summary of Other Student Factors

Factor	Weighted Value
Performance Tests	282
Written Exams	176
Work Habits	192
Attitude and Effort	97
Outside Assignments	88
TOTAL	835

Grading Scale

880–1000 points = A
780– 879 points = B
680– 779 points = C
600– 679 points = D
Below 600 points = F

Example Grade

Individual earned 835 points resulting in a grade of "B"

requirements as well as the abilities and needs of the learner. Regardless of which system is used, a clear understanding of it should be communicated to the student and supplementary personnel at the beginning of the grading period.

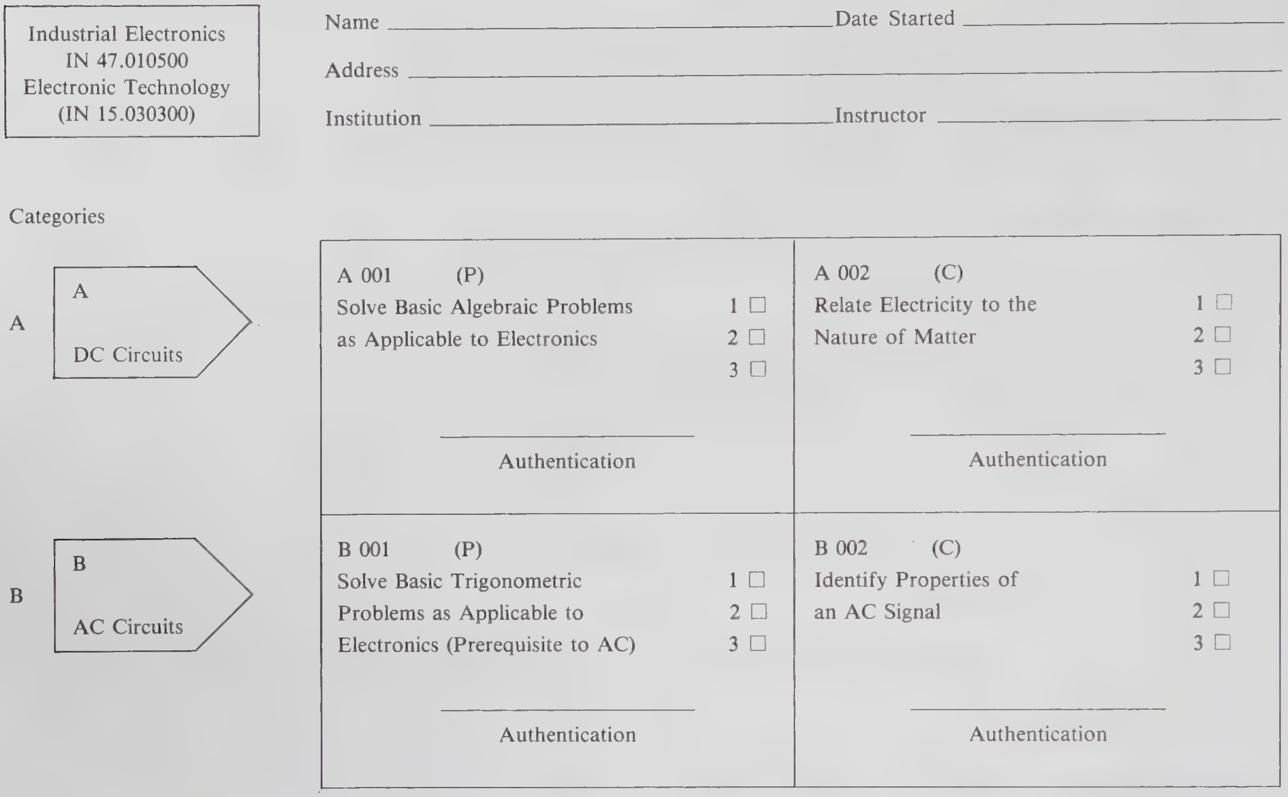
GRADE REPORTS AND COMPETENCY RECORDS

Student achievement is reported in as many different ways as there are school systems. However, most schools use the traditional student report card, which contains grades, percentages, pass/fail and satisfactory/unsatisfactory ratings of student progress in relation to identified subjects or competencies.

Some states and local school systems are including additional information to report student achievement of occupational competencies. The state of Florida has implemented a form of competency recordkeeping entitled, *The Career Merit Achievement Plan (Career Map).* The Career Map lists major categories of the instructional program corresponding to major divisions of an occupation followed by coded competencies, which the students must master in order to perform the work associated with the category. Figure 10.15 shows an abbreviated example of the Florida

Figure 10.15

FLORIDA CAREER MERIT ACHIEVEMENT PLAN



Industrial Electronics
IN 47.010500
Electronic Technology
(IN 15.030300)

Name ______________________ Date Started ______________________

Address ______________________

Institution ______________________ Instructor ______________________

Categories

A	A DC Circuits	A 001 (P) Solve Basic Algebraic Problems as Applicable to Electronics 1 ☐ 2 ☐ 3 ☐ Authentication	A 002 (C) Relate Electricity to the Nature of Matter 1 ☐ 2 ☐ 3 ☐ Authentication
B	B AC Circuits	B 001 (P) Solve Basic Trigonometric Problems as Applicable to Electronics (Prerequisite to AC) 1 ☐ 2 ☐ 3 ☐ Authentication	B 002 (C) Identify Properties of an AC Signal 1 ☐ 2 ☐ 3 ☐ Authentication

Career Merit Achievement plan. Each student competency must be verified by the teacher or some other authority and must be rated with a *1, 2,* or *3* in the boxes provided for each competency to indicate conditions of competency performance. A rating of *1* corresponds to the student performing the competency satisfactorily with supervision. A rating of *2* indicates satisfactory competency performance with only periodic supervision. A rating of *3* indicates that the student performed the competency satisfactorily without supervision. Each competency is also coded as either primarily cognitive (C) or primarily performance-based (P) in learning type.

The state of Georgia has included a certificate of competency in their curriculum guides which, on the back, lists the tasks the student can satisfactorily demonstrate in an occupation or job. Figures 10.16 and 10.17 show an example certificate and competency listing for a food service worker-counter attendant in a cafeteria. A certificate is included in the guide for each job or exit point from the instructional program.

Competency certificates, competency checklists, and other forms of competency records provide students, parents, and potential employers with more detailed information about what students can and cannot do. It is important to remember that competency records and other student information must be cleared for release to potential employers so that confidentiality according to established laws is maintained. They are valuable supplements to the traditional report card and high school transcript.

Competency records can be modified for use with handicapped students to indicate not only their record of competency achievement but also the modifications or support services that would be needed.

SUMMARY

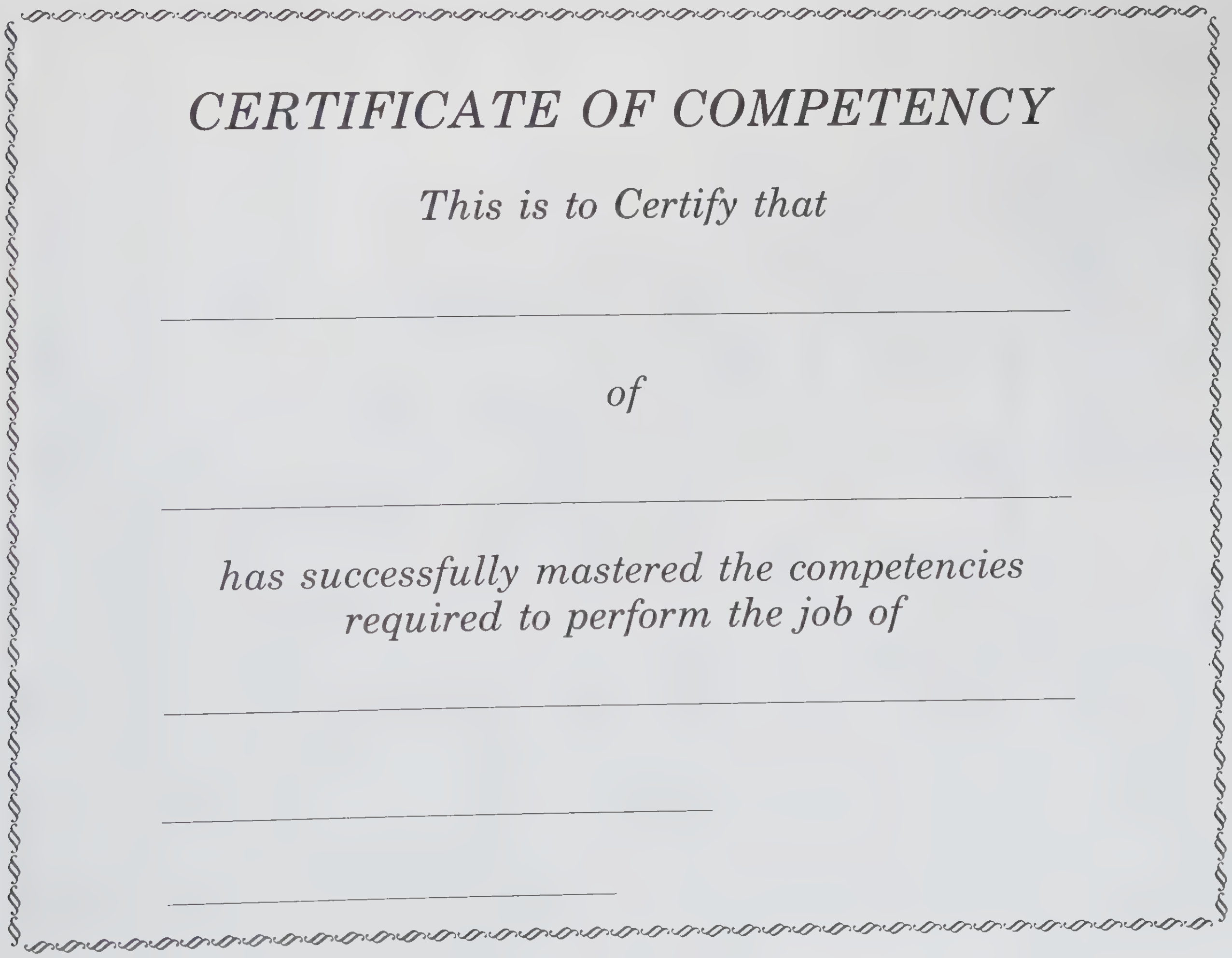
The evaluation and grading system for reporting the achievement of special needs learners should consider the needs and abilities of the student rather than how the student compares to other students. The vocational teacher and support personnel should cooperatively plan and implement an evaluation program for each special needs learner. This evaluation program should contain a number of evaluation factors designed to provide feedback on student progress in relation to behaviors required in a specific job or occupation. Such factors as task or competency performance, work habit development, attitude and effort, and cognitive achievement should be included in the evaluation system.

When working with handicapped learners in vocational programs, teachers should use the individualized education program (IEP) as a management tool in evaluating student progress in the program. Likewise, vocational teachers working with disadvantaged learners should use the individual prescribed program (IPP) as a basis for designing the evaluation component.

An evaluation system based on the student's IEP or IPP—which includes many evaluation factors, methods, and techniques and which is fair and impartial—can provide a number of advantages to both the student and the teacher. The student is given the incentive to succeed as well as important feedback about performance. The teacher is provided with feedback information about the appropriateness of IEP and IPP content, the instructional method, and instructional materials. Evaluation should be an integral

Figure 10.16

EXAMPLE GEORGIA CERTIFICATE OF COMPETENCY (PART 1)



CERTIFICATE OF COMPETENCY

This is to Certify that

____

of

____

has successfully mastered the competencies
required to perform the job of

____

____

____

Figure 10.17

EXAMPLE GEORGIA CERTIFICATE OF COMPETENCY (PART 2)

The student named on this certificate has demonstrated mastery of the following tasks required to perform the job of Cafeteria Counter Attendant.

COUNTER ATTENDANT, CAFETERIA
(D.O.T. 311.677-014)

Personal Hygiene and Sanitation

Understanding prescribed personal hygiene
Identifying and controlling microorganisms that cause contamination and illness
Identifying common pests and pest prevention procedures
Cleaning and sanitizing
Following sanitary waste disposal procedures
Washing dishes and utensils
Cleaning and sanitizing food preparation, food service, and food storage areas

Safety

Creating a safe working environment
Following fire safety procedures
Identifying first aid procedures

Tools and Equipment

Identifying, selecting and using small tools and utensils
Selecting, using and caring for knives
Using food cutting equipment
Using food steaming equipment
Using food mixing equipment
Using and caring for surface cooking equipment
Using and cleaning deep fat frying equipment
Using and caring for toasters
Using and caring for ovens
Using and caring for serving and holding equipment

Weights, Measures and Recipes

Demonstrating weighing and measuring techniques and procedures
Following recipes

Nutrition

Understanding the fundamentals of nutrition
Developing a nutritionally complete diet
Understanding the nutrient labels of processed foods

Functions of Basic Ingredients

Using seasonings

Cooking Methods and Preparation

Identifying the basic methods of heating foods

Meats, Poultry, Fish and Shellfish

Identifying principles of meat, poultry and seafood cookery
Identifying characteristics of meats important for food preparation tasks
Identifying cuts of meat animals
Identifying characteristics of poultry important for food preparation tasks
Identifying characteristics of fish and shellfish important for food preparation tasks

Salads and Salad Dressings

Preparing salads

Appetizers and Garnishes

Preparing garnishes

Sandwich Preparation

Preparing sandwiches

Beverages

Preparing, serving and dispensing beverages

Sevice Personnel

Arranging dining area for service
Serving customers

part of the instructional process and not an added component designed solely for the purpose of assigning a grade at the end of an instructional period.

The evaluation system should be established for each special needs learner each grading period and should make use of a number of evaluation methods and techniques. One of the most important evaluation techniques is to develop performance tests for each task or competency. Consideration should be given to modifying measurement and evaluation instruments and modifying grading practices to better meet the capabilities and needs of special needs learners.

Vocational teachers and support personnel should establish the point values or weights for each evaluation factor and develop a plan to summarize and report grades to the student and outside audiences. Good grades are just as important to special needs learners as they are to other students.

SELF ASSESSMENT:

1. Why is it important not to compromise task performance standards in order to help special needs learners improve their grades in a vocational program?
2. Explain why the evaluation system for assessing the achievement of special needs learners should be based on the IEP or IPP rather than on a comparison of the student's achievement with the achievement of others.
3. Identify and describe some evaluation factors that should be considered in an evaluation system for special needs learners.
4. Describe the individualized units method and the contract method of evaluating achievement of special needs learners.
5. Describe the steps involved in developing performance tests to measure student performance on tasks and competencies.
6. Describe the steps involved in constructing pencil-paper cognitive achievement tests for special needs learners.
7. Identify and describe the common item formats used in pencil-paper achievement tests.
8. List some of the benefits that an effective special needs learner evaluation component can give to students, teachers, parents, and employers.
9. List some of the measurement techniques that vocational teachers can employ to evaluate special needs learners' progress.
10. List some of the alternative evaluation techniques that can be used to assess special needs learners' progress.
11. Explain why the considerations of minimizing the fear of tests and providing continuous feedback are important to evaluating special needs learners' progress.
12. List some of the suggestions for constructing measurement instruments for use with special needs learners.
13. List some of the characteristics of an effective special needs learner grading system.
14. List and explain some of the different grading practices that can be used with special needs learners.
15. Describe the point system for determining a student's grade.
16. Describe the averaging system for determining a student's grade.

ASSOCIATED ACTIVITIES

1. Secure a textbook that contains information about evaluating achievement in vocational education and review it.
2. Talk to vocational teachers in your school, field, and in other schools to determine how they evaluate and grade special needs learners.
3. Begin a reading program on measurement and evaluation in vocational education.
4. Establish and maintain a file on measurement and evaluation and seek materials on topics such as tests, rating instruments, and evaluation systems.
5. Participate with special education teachers and disadvantaged specialists in planning and implementing the evaluation and grading system for special needs learners enrolled in your program.
6. Develop a performance test for each task or competency in your program, and required rating instruments and tests to assess other evaluation factors.
7. Secure and use a microcomputer test generator program to store test items and construct tests for special needs students.
8. Write articles for publication in educational magazines and journals on the topic of evaluation of special needs learners.

CASE STUDY: KAREN'S STORY

Karen is an academically disadvantaged learner enrolled in a child care program in a comprehensive high school. She is the oldest sister in a large family where the father is deceased. Her mother works long hours to provide for the family, which has forced Karen into the role of caring for her younger sisters and brothers. Karen has missed many days of school this year. She is falling further and further behind in her school work. She is a slow learner with very low basic skills. Karen scored on the 49 percentile on a standardized achievement test and is presently earning a 1.9 on a 4.0 grading scale in her classes. Her reading and math scores are measured at the fifth grade level.

Since Karen has always been a low achiever in school, she lacks confidence in her ability to improve her grades in school. She usually performs better on performance tests when they are available in her child care classes than she does on the written tests. Her daily classroom and laboratory grade is average.

Karen's child care instructor has met with the school system's disadvantaged specialist and has developed a tentative IPP to use as a guide for Karen's instructional program. The disadvantaged coordinator is providing instruction in basic reading and math skills and is also reinforcing academic skills associated with child care learning tasks.

Karen is also receiving help from a peer tutor so she can keep up with her classmates. Karen is beginning to improve her achievement in the instructional program but she is still having difficulty with written tests. Although Karen requires extra time to complete performance tests she continues to earn slightly above average on these tests. With each new successful experience on performance tests, Karen's self-confidence is increasing.

The vocational teacher has met with the disadvantaged specialist for the IPP and has decided on an evaluation component that is better suited to Karen's ability and needs. The vocational teacher is preparing more skill performance tests to administer to Karen. Karen's teacher has also modified written tests, making them shorter in length and covering less content in a single testing. Also, more time is being provided for review before the test is administered. The vocational teacher and Karen have discussed her problem in taking written tests and have explored ways that may lead to improvement. Karen has been given more time to take the test. She is also permitted to take the test during a regular class study period rather than in a group testing situation. The vocational teacher has also eliminated completion test items on Karen's tests and replaced them with matching and multiple choice items.

Karen's performance on written tests is slowly improving. Her confidence is also building and the fear she had of written tests is giving way to viewing tests as a challenge and opportunity to learn more about herself. Her skill performance is also showing improvement as a result of being involved in evaluating her own performance by using criteria checklists. Karen still has a long way to go in improving her achievement in the child care program, but she has made a positive beginning, owing to modifications made in her instructional program and in the way in which she is being assessed.

RELATED ACTIVITY

Mr. Andrews is a vocational teacher at Mt. Rollo High School. He has two academically disadvantaged students in his marketing and distributive education program who have scored below the 55 percentile on a standardized achievement test and are functioning below a 2.0 average on a 4.0 scale in his classes. Mr. Andrews has met with the disadvantaged specialist in his school system and has planned individual prescribed programs for his disadvantaged students. Mr. Andrews and the disadvantaged specialist both agree that the regular student measurement and evaluation component used to assess student achievement is not appropriate for use with the disadvantaged students at this time.

Based on the above information, how should Mr. Andrews and the disadvantaged specialist develop individualized evaluation programs for these two academically disadvantaged students? What modifications can they make to better meet the assessment needs of these disadvantaged students?

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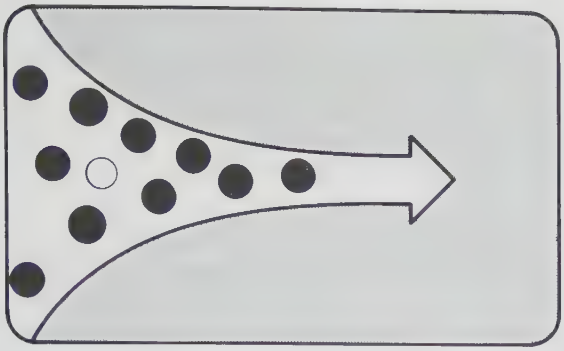

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Vocational teachers in every service area of vocational education, such as vocational agriculture or home economics, are provided with an important instructional tool for use with special needs and other vocational students in the form of a vocational student organization (VSO). Special needs students who participate in VSOs are provided with many benefits, including the satisfaction of belonging to something larger than themselves and feeling a part of an organization, the school, and the community. VSOs provide comprehensive activities and opportunities for special needs students to develop positive self-concepts, social skills, problem-solving skills, communication skills, leadership skills, and occupational skills valued universally by employers.

Even though VSO activities are considered an integral part of the regular instructional program, a number of real or perceived barriers inhibit special needs students' participation in VSO learning experiences. Today, most vocational teachers are encouraging active participation of all students, including special needs learners, in VSO activities and are working cooperatively with special needs support personnel to ensure that these learners have successful experiences.

This module presents information that can be used by vocational teachers to encourage special needs learners to participate in VSO activities and provides suggestions for modifying activities when necessary to accommodate special needs learners.

OUTLINE

- Benefits and Advantages
  - Benefits to Teachers, Schools, and Communities
- Barriers to VSO Involvement
- Legislation and Special Needs Student Participation in VSO's
- Vocational Student Organizations
  - Historical Perspective
  - General Characteristics
  - Nine National VSOs
    - American Industrial Arts Student Association (AIASA)
    - Distributive Education Clubs of America (DECA) and Delta Epsilon Chi (DEC)
    - Future Business Leaders of America (FBLA) and Phi Beta Lambda (PBL)
    - Future Farmers of America (FFA)
    - Future Homemakers of America (FHA) and Home Economics Related Occupations (HERO)
    - Health Occupations Students of America (HOSA)
    - National Postsecondary Agricultural Student Organization (NPASO) or Postsecondary Agricultural Students (PAS)
    - Office Education Association (OEA)
    - Vocational Industrial Clubs of America (VICA)
- Involving Special Needs Students in VSO Activities
  - VSO Support Team
- Mainstreaming Special Needs Students into VSO Activities

- VSO Program of Work
  - Chapter/Club Calendar
  - Achievement/Degree Programs
  - Chapter/Club Meetings
  - Officer Elections/Training
  - Competitive Events
  - Leadership Conferences
- VSO Modification Ideas
  - Creative Ideas
- VSO Advisor Functions
- Summary
- Self Assessment
- Associated Activities
- Case Study
- Related Activity
- Vocational Student Organizations
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Identify some of the benefits and advantages of VSOs for students, teachers, schools, and communities.
2. Identify some of the traditional barriers to special needs student involvement in VSOs.
3. Describe the legislation that has guaranteed special needs students the right to participate in VSOs.
4. Describe how VSOs were created and discuss the general characteristics common to all of them.
5. Identify and briefly describe each of the nine national recognized VSOs.
6. Identify some strategies that could be used to encourage and enhance special needs student involvement in VSO activities.

CONCEPTS

IEP - Individualized education program for handicapped learners planned cooperatively with support personnel.

Integral - Needed to complete the whole.

Interpreter - A support person, usually for the deaf, who uses finger spelling and/or sign language to translate what is being said for the deaf individual.

IPP - Individual prescribed program for disadvantaged students planned cooperatively with support personnel.

Modification - A change in a part of a vocational school facility or some type of equipment, furniture, tool, or instructional strategy in an instructional program in order to eliminate a barrier for a special needs student.

Self-esteem - Having confidence and satisfaction in oneself.

Special education teacher - Special teacher who is employed by the school system to provide instruction for handicapped learners.

Vocational student organizations - The nine vocational student organizations (VSOs) that are recognized by the U.S. Department of Education as intracurricular to the instructional program in vocational education service areas.

VSO advisor - Vocational teacher who provides instruction, guidance, and advice to VSO members.

VSO support team - Vocational teachers, special education teacher, and other school and community support personnel who work together to encourage and enhance special needs student participation in VSOs.

MODULE 11

INTEGRATING SPECIAL NEEDS LEARNERS INTO VOCATIONAL STUDENT ORGANIZATIONS

Student organizations have been a part of vocational education programs since the pasage of the Smith-Hughes Act of 1917, which provided federal support for vocational education programs. Over the years each major service area of vocational education, such as vocational agriculture and trade and industrial education, has developed a national student organization to serve the students enrolled in their programs. Today, vocational student organizations (VSOs) are more than simply an organized activity to provide social and recreational opportunities for students (as shown in the policy statement below); they are an integral part of every vocational program.

> The National Vocational Advisory Council on Vocational Education in its historic *7th Report* (1972) acknowledged the work that vocational student organizations had done and made six recommendations to the U.S. Secretary of Health, Education and Welfare for the further development of these organizations. Undoubtedly influenced by the Advisory Committee report, the U.S. Office of Education (now the Department of Education) recognized the vital role that vocational student organizations play in vocational education and developed a policy statement that acknowledges that these organizations' activities were intracurricula and that federal monies could be used to support certain activities of the organization.

(Policy Statement, 1974)

Vocational educators believed strongly enough in the value of vocational student organizations to influence congress to include a statement in the 1976 amendments to the Vocational Act of 1963, which stipulates that federal funds could be used for student organizations.

The Carl Perkins Vocational Act of 1984 (P.L. 98-524) includes vocational student organization activities in its definition of vocational education, which says:

> Organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, in such fields as agriculture, business occupations, marketing and distributive occupations, technical and emerging occupations, modern industrial and agriculture arts, and trades and industrial occupations, or for additional preparation for a career in such fields, and in other occupations requiring other than a baccalaureate or advanced degree and vocational student organization activities as an integral part of the program.

Vocational student organizations, as defined by P.L. 98-524 means:

> Those organizations for individuals enrolled in vocational education programs which engage in activities as an integral part of the instructional program. These organizations may have state and national units which aggregate the work and purposes of instruction in vocational education at the local level.

(Carl Perkins Vocational Education Act, Title 5, Part B, 1984)

VSOs have become a major instructional tool for teachers to provide the leadership, citizenship, and occupational skills and knowledge required to prepare students for jobs and careers in our fast-changing technological society. They have become a highly visible component of vocational education in America, and therefore have provided the vehicle for business, industry, and community involvement in the educational process in our nation's schools.

While there are still some educators who view VSOs as extracurricular in nature, most recognize VSO activities as an integral part of vocational education programs which contribute to the comprehensive learning experiences of the student. In actual practice, VSO activities are scheduled along with other classroom and laboratory learning experiences. VSO activities often complement and reinforce learning experiences for the student, thereby adding another dimension to the instructional program.

Special needs students, along with other students, can participate and benefit from VSO activities. The overriding purpose of all student organizations is to provide learning experiences, opportunities, and recognition that contribute to the maximum development of the individual student. Of no less importance is preparing students for active participation in our democratic and free enterprise society.

BENEFITS AND ADVANTAGES

Harris and Sweet (1981) identified a number of benefits provided through active participation in VSOs. These benefits apply to all learners, including special needs students, and are as follows:

1. civic responsibility,
2. leadership skills,
3. social skills through committee work and recreational activities,
4. respect for the dignity of work,
5. effective use of free time,
6. understanding of employer/employee relationships,
7. spirit of competition,
8. vocational understanding,
9. recognition and prestige,
10. enthusiasm for learning,
11. firsthand knowledge of the democratic process,
12. home improvement skills,
13. employability skills,
14. sense of independence and accomplishment,
15. opportunity to plan and carry out an idea,
16. opportunity to see adult sponsors as role models.

The above list of benefits includes most of the desirable behaviors needed by all students, but several of them reflect critical needs of many special needs students—notably a sense of independence and accomplishment, and enthusiasm for learning.

Sarkees (1983) identified some advantages of participating in VSO activities that are important for special needs learners. These are (a) building self-confidence, (b) developing interpersonal relationship skills, (c) improving vocationally related and employability skills, (d) providing motivation to learn, (e) providing valuable information about citizenship and living independently in our democratic society, (f) developing leadership skills, and (g) providing an opportunity for effective student-teacher interaction.

VSO activities were developed to improve self-concept, develop respect for work and pride in a chosen occupation, develop high ethical and moral values, create an understanding and appreciation of the work ethic, and develop a sense of cooperation with others to accomplish chapter/club activities and school and work assignments. These activities help special needs students develop a strong identity, a feeling of belonging, a sense of independence, and a healthy relationship with fellow students and adults (Sarkees, 1983).

The personal-social and academic benefits of involvement in VSOs go hand in hand. Special needs students get to know other students and their teacher on a personal basis through individual activities and cooperative teamwork. At the same time they are strengthening their commitment to the goals, objectives, and learning experiences of the vocational program and are becoming motivated to succeed in classroom and laboratory activities (Sarkees, 1981).

Benefits to Teachers, Schools, and Communities

In addition to providing many benefits to vocational students, VSOs provide benefits to teachers, schools, and communities. Benefits to teachers include additional teaching strategies, opportunities for self-improvement, opportunities to enrich instructional experiences, a valuable student recruitment tool, publicity for the vocational program, and opportunities to improve the total program. Benefits to schools include motivating students to apply themselves more to school and learning, promoting community involvement in school activities, and bringing school and life into closer harmony with each other. Communities also receive benefits such as better prepared citizens, services provided to citizens in need, and a source of young people who have leadership and employment skills (FHA Brochure).

BARRIERS TO VSO INVOLVEMENT

With so many benefits and opportunities provided by VSOs, it is hard to imagine why every vocational student does not belong to the VSO in their vocational service area. Phillips (1981) reported that only 1.7 million out of approximately 10 million students in secondary vocational programs were enrolled in VSOs. Some reasons for these statistics are that (1) some vocational students are denied the opportunity to become a member because local school administrators often consider VSO activities disruptive of more traditional academic education and discourage their establishment (National Advisory Council, 7th Report, 1972), and (2) vocational teachers often ignore the great potential of an active VSO as an integral part of this instructional program. Reasons commonly cited for not starting a VSO include the following:

1. dues are too high for students to pay;
2. school activity periods are not provided;
3. transportation is not available for after-school activities;
4. VSO activities take up too much of after-school and weekend time;
5. students are not interested in VSO activities;
6. parents are not supportive.

Another major barrier that may limit student participation in VSOs is the negative attitudes and myths that students, vocational educators, and administrators have toward active participation of special needs learners in VSO activities. Traditionally, special needs learners have shied away from pursuing membership in VSOs because they lack motivation and self-confidence, and feel inadequate to compete with other students in VSO competitive events. Other perceived factors that discourage special needs students from becoming involved in VSOs were identified by Birchenall and Wanat (1981):

1. A tendency toward selective and elitist membership in VSOs;
2. Negative attitudes of administrators and supervisors concerning the integration and preparation of special needs students in VSOs;
3. Emphasis on competition and winning instead of student development;
4. Insufficient or inappropriate activities for special needs students;
5. Lack of recruitment and public relations activities to encourage the handicapped to join VSOs;
6. Insufficient support services to accommodate the special needs of disabled students;
7. Attempts to create separate student organizations for special needs students.

Of all the barriers mentioned, probably the major one is the unwillingness of vocational teachers to implement a VSO in their classrooms although it is considered an integral part of a good vocational program. There are challenges confronting vocational teachers who are considering establishing a VSO, such as learning how to get a club or chapter started and reviewing all of the materials available from the VSO national office about the VSO in their vocational area. Problems in learning how to become a VSO advisor and how to integrate VSO activities into the vocational program also exist.

One teacher addressing the problems associated with VSOs said, "Teachers who feel that a VSO is a pain in the neck are shortchanging their students and denying them the opportunity to gain the qualities necessary for success that are often impossible to develop in the regular classroom alone. You ask if the benefits are worth the problems; you bet they are." (Butler, 1981).

LEGISLATION AND SPECIAL NEEDS STUDENT PARTICIPATION IN VSO'S

Federal legislation enacted in the past ten years supports the rights of handicapped individuals to become regular participants in VSOs. Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112) mandates that no otherwise qualified handicapped individual shall be excluded from participation in programs or activities supported with federal funds. Since vocational education programs are partially supported with federal funds and VSOs are integrated into vocational programs, this legislation applies (Sarkees, 1983).

The Education for All Handicapped Children Act of 1975 (P.L. 94-142) specifies that states shall use the mandated set-aside funds to assist handicapped students to participate in regular vocational education programs. This legislation also contains the concept of least restrictive environment. Many handicapped learners are capable of succeeding in regular vocational programs, given appropriate support, and are likewise capable of participating in VSO activities (Sarkees, 1983).

The Vocational Amendments of 1976 (P.L. 94-482) state that VSOs must be listed in state annual and five-year vocational education plans, and that these organizations should be an integral part of vocational education supervised by qualified educational personnel. In addition, the amendments state that participation in VSOs should be available to all students in the instructional program without regard to membership in any student organization (Federal Register, 1977). Clearly, special needs students are guaranteed the right to participate in VSO activities if they are available in their vocational programs in local schools.

VOCATIONAL STUDENT ORGANIZATIONS

One of the undisputed basic needs of a person is a sense of belonging—a feeling of being accepted in something larger than the individual. Vocational student organizations (VSOs) provide the basic vehicle for students to meet this need of belonging and becoming a part of an organized group. Other reasons why students join groups or organizations are for recognition, expanded opportunities, helping others, making new friends, security, being involved in a worthwhile cause, developing leadership abilities, and self-expression. VSOs provide opportunities for students to meet friends, work together with other students in a specific interest field, gain individual and group recognition for achievements, develop leadership and occupational skills required for entrance into a chosen career, and render services to the school and community to make them better places in which to learn, live, and work.

Historical Perspective

Soon after vocational education programs were established at the high school level as a result of the Smith–Hughes Act of 1917, vocational educators began to realize the need for some type of club activity to provide social and recreational activities and to provide a means of motivating students to take full advantage of the instructional program. A number of vocational educators established local school societies or clubs to serve their vocational students. As these local school efforts grew, state organizations were created in certain service areas of vocational education and interest began to increase in establishing national VSOs. The vocational agriculture educators were the first to establish a VSO by founding the Future Farmers of America in 1928 (Rumpf, 1971). By 1981 eight other national VSOs had been formed.

General Characteristics

Most VSOs have been formed to serve students in a specific vocational service area, with the exception of Future Business Leaders of America (FBLA), which originally was open to all business education students at the secondary level. All VSOs carry on activities as an integral part of their vocational programs. The purposes of VSOs are similiar and focus on the areas of leadership development, student personal growth, career exploration, home and family improvement, citizenship and patriotism development, scholarship and vocational preparation improvement, school and community improvement, development of respect for the dignity of work, development of high ethical and moral standards, participation in cooperative effort, and development in social skills and worthy use of leisure time. Each VSO has a motto and creed stating the basic beliefs that guide their actions. Each VSO has an emblem and official colors symbolic of their organization that serve to remind members of the purpose of their organization.

Membership in VSOs is open to students enrolled in vocational programs or those who have been enrolled during the school year. Most VSOs have several types of membership that include (1) active member, (2) honorary member, (3) alumni member, (4) associate member, (5) professional member, and (6) collegiate member. Active members are those students presently enrolled in vocational programs and those who have been enrolled during the school year.

VSO members can be identified by their official dress, which consists of a colored blazer or jacket with the emblem of the organization attached to the left breast pocket, white shirt or blouse, appropriately colored tie, slacks, skirt, socks, and shoes.

The organizational structure of VSOs is similiar to the national organization, the state association, and local chapters and/or clubs. VSOs at the national level are incorporated and listed under the Internal Revenue Service code 501(C)(3) for nonprofit organizations. VSOs are governed by a board of directors and managed by an executive director and staff who execute the policies established by the organization. The student-directed VSO, such as the Distributive Education Clubs of America (DECA), is governed by a set of national officers. These national officers form the National Executive Council, which receives directions from a delegate assembly that convenes annually at the National Conference. Most VSOs have a third organizational form, a foundation which enables business, industry, organizations, and individuals to cooperate in enhancing and furthering the programs of VSOs.

State vocational student associations are chartered by the national organization and consist of a set of state officers who form the executive council under the guidance of a state VSO director—usually a member of the State Department of Education in the VSO service area. State associations support the national organization's goals, purposes, policies, and activities and provide leadership to organizational structures below it such as districts, regions, areas, and local chapters and/or clubs.

Local VSO chapters/clubs are student directed through a set of elected officers under the guidance of the vocational teacher who serves as VSO advisor. VSO chapters or clubs plan programs of work which list the various activities required to accomplish the purposes of the organization and the national program of work.

These activities for programs of work are usually selected from the following major categories: (1) professional, (2) leadership, (3) personal growth, (4) civic and community, (5) social, (6) service, (7) safety, (8) public relations, (9) cooperation, (10) financial, and (11) scholastic or educational.

VSO members have many opportunities to develop the knowledge, skills, and appreciations required to become leaders in their chosen career fields. Leadership, communication, and social skills can be developed through participation in VSO meetings, conferences, special seminars, and a variety of chapter/club activities. Leadership and occupational skills and knowledge can be further developed through participation in individual competitive events, team competition events, and chapter/club events which are offered by most VSOs. Winners in these competitive events are recognized in a variety of ways, including receiving trophies, plaques, medals, pins, certificates, newpaper coverage, and recognition at meetings and banquets.

The national VSO organization provides many interesting and informative materials to support local VSO chapter/club activities. All VSOs publish a student magazine such as *Teen Times,* the official magazine of the Future Homemakers of America, and most have additional publications such as newspapers, newsletters, brochures, posters, instructional aids, and a wide variety of chapter/club materials such as handbooks, competitive events guides, and recognition certificates. National VSOs also work with suppliers such as the Balfour supply service to provide other VSO support materials, including blazers, pennants, awards, and pins.

Nine National VSOs

The United States Department of Education issued a policy statement on VSOs in 1981 in which nine VSOs were recognized as being an integral part of vocational education instructional programs. These nine VSOs include:

American Industrial Arts Student Association (AIASA)
Distributive Education Clubs of America (DECA) - Delta Epsilon Chi (DEC)
Future Business Leaders of America (FBLA) - Phi Beta Lambda (PBL)
Future Farmers of America (FFA)
Future Homemakers of America (FHA) - Home Economics Related Occupations (HERO)
Health Occupations Students of America (HOSA)
National Postsecondary Agriculture Student Organization (NPASO)
Office Education Association (OEA)
Vocational Industrial Clubs of America (VICA)

Further information may be obtained by contacting the specific VSO at the address listed at the end of the module.

American Industrial Arts Student Association (AIASA). The American Industrial Arts Student Association (AIASA) was officially organized in 1965 as a sponsored program of the American Industrial Arts Association (AIAA). It was officially incorporated in 1978 as the only national student organization designed exclusively to meet the needs of industrial arts students at the elementary, junior high and middle school, and high school levels. AIASA is designed to develop the leadership and personal abilities of industrial arts students as they relate to the industrial-technical world.

Distributive Education Clubs of America (DECA) and Delta Epsilon Chi (DEC). The Distributive Education Clubs of America (DECA) was founded in 1947 to serve students enrolled in secondary school marketing, distribution, merchandising, and management programs. A postsecondary division of DECA—Delta Epsilon Chi (DEC)—was established in 1961 to meet the needs of students enrolled in marketing and distributive education programs in junior colleges, community colleges, technical institutes, and area vocational/technical schools (*DECA Handbook*, 1975).

The mission of DECA is to help marketing and distributive education (MDE) teachers create learning opportunities for MDE students through chapter activities.The DECA focus is upon developing student knowledge, skills, and appreciations of marketing, merchandising, and distribution careers while at the same time, increasing civic consciousness, building social intelligence and leadership development (*DECA Brochure*).

Future Business Leaders of America (FBLA) and Phi Beta Lambda (PBL). The Future Business Leaders of America (FBLA) was founded in 1940 as a student organization sponsored by the National Council for Business Education. FBLA is the VSO that is open to secondary students enrolled in business and office education. Its purpose is to bridge the gap between the classroom and office world by giving students a chance to learn firsthand about the business community. Phi Beta Lambda (PBL) was created in 1958 to serve the many business education students enrolled in postsecondary education institutions and is open to postsecondary students participating in business, office, and business teacher education. Both FBLA and PBL have the development of competent, aggressive business leadership as one of their major goals.

Future Farmers of America (FFA). The Future Farmers of America was founded in 1928 to serve high school vocational agriculture students preparing for careers in agricultural production, processing, supply and service, mechanics, horticulture, forestry, and national resources. The vocational agriculture/FFA program has three major components: (1) the course of study for students preparing for careers in agriculture and agribusiness, (2) the supervised occupational experience program in which each student participates, and (3) the incentives and awards programs to encourage students to excel in both vocational agriculture and the FFA. Through participation in FFA activities, students learn how to conduct and take part in meetings, handle financial matters, speak in public, solve their own problems, develop leadership skills, and assume civic responsibility (Vocational Agricultural FFA Facts).

Future Homemakers of America (FHA) and Home Economics Related Occupations (HERO). The Future Homemakers of America (FHA) was founded in 1945 to help students prepare for their future multiple role as homemaker, wage earner, and community leader. FHA expanded its organization in 1971 to include a division of Home Economics Related Occupations (HERO).

FHA and HERO chapters are interrelated because they share a common focus on home economics subject matter, knowledge, and skills. They both claim the same organizational goal. FHA chapters emphasize consumer homemaking education involving instructional experiences with areas of child development and family relations, food and nutrition, clothing and textiles, home furnishings, and consumer education and home management. Special emphasis is placed on strengthening the family, developing life and leadership skills, and exploring home economics related careers and jobs. HERO chapters emphasize preparation for jobs and careers in home economics related occupations in such areas as child care, food service, clothing, home furnishings and equipment, and institutional and home management. In addition, HERO chapters place special focus on developing personal growth, leadership development, and community involvement (*Handbook for Youth-Centered Leadership,* 1982).

Health Occupations Students of America (HOSA). The Health Occupations Students of America (HOSA) was founded in 1976 to provide a student organization that exclusively serves secondary and postsecondary students enrolled in health occupations programs. HOSA was created to become an integral part of health occupations programs and to provide health occupations students with learning experiences that help to develop leadership, citizenship, and occupational knowledge and skills required to enter jobs and careers in the health occupations field (*HOSA*, 1984).

National Postsecondary Agricultural Student Organization (NPASO) or Postsecondary Agricultural Students (PAS). The National Postsecondary Agricultural Student Organization (NPASO) also known as Postsecondary Agricultural Students (PAS), was founded in 1979 to serve students enrolled in agriculture/agribusiness and natural resources programs in postsecondary institutions. The broad purpose of PAS is to help students develop leadership, management abilities, and occupational knowledge and skills required for careers in agriculture/agribusiness and renewable natural resources.

Office Education Associatión (OEA). The Vocational Office Education Clubs of America was founded in 1966 to serve secondary and postsecondary students enrolled in vocational office programs. The *World of OEA* (1983) states that the overall purpose of the organization is to provide individuals with skills and abilities to meet local, state, and national needs for office workers. The Office Education Association (OEA) operates as an integral part of the vocational program and is designed to develop leadership abilities, interest in the free enterprise system, and competencies in office occupations.

Vocational Industrial Clubs of America (VICA). The Vocational Industrial Clubs of America (VICA) was founded in 1965 to serve students enrolled in trade, industrial, technical, and health occupations at the secondary level. A postsecondary divison of VICA was established in 1969. VICA is dedicated to providing experiences and opportunities for the total development of the individual through developing citizenship and leadership qualities as well as through the development of occupational knowledge and skills.

INVOLVING SPECIAL NEEDS STUDENTS IN VSO ACTIVITIES

Special needs students need to be encouraged to become actively involved in VSO activities and should be actively recruited by VSO members, the teacher/advisor, and special needs support personnel. The teacher/advisor relationship and communication with special needs students are often the determining factors of VSO involvement or rejection. Teachers can consult with special education teachers, parents, and other advocacy groups to obtain information that might be helpful in attracting special needs students to join a VSO.

One good technique for teachers in encouraging special needs students to join VSOs is to find one particular talent that a special needs student has and to encourage the student to apply that talent to a specific club activity. For example, Mary, a learning disability student, declined to join FHA although her teachers and classmates had repeatedly asked her to become a member. The home economics teacher noticed that Mary was very good in creative drawing and lettering. She asked Mary if she would assist the publications committee in preparing bulletin boards during national vocational week. Mary agreed to help other students on the committee. The bulletin board received many compliments from students throughout the school, which were passed on to Mary. Mary's self-confidence increased and she decided to join FHA the next time she was asked.

VSO Support Team

VSO club advisors are often successful in involving special needs students in chapter/club activities, but it is often helpful to build a support team. Collaborative efforts should be encouraged between the vocational teacher/advisor and support personnel. Suggested team members might include special education teachers, English teachers, remedial teachers, administrators, peers, parents, community agencies, school psychologists, counselors, interpreters, and representatives from business and industry (Sarkees, 1983). Examples of VSO collaborative team efforts, identified by Sarkees (1983), include the following:

1. Conduct cross-training inservice sessions. Special education teachers can share information concerning the nature and needs of special needs students, behavior management, instructional techniques, instructional strategies, and ideas for modifying activities and contests when necessary. VSO advisors can provide support team members with information about the role of the VSO in the instructional program, including how and when club activities are implemented, the nature of activities and competitive events, and how team members can assist special needs students in selected VSO activities. Figure 11.1 shows a sample agenda for a VSO cross-training inservice meeting.

2. Jointly conduct leadership seminars for special needs students that would help them develop participation skills and attributes such as speaking in front of a group, accepting responsibility, delegating duties, accepting and giving constructive criticism, working together as a team, and executing the decision-making process through parliamentary procedures. Informal techniques such as simulation and peer tutoring could be used to deliver instruction in these seminars. For example, VSO advisors in a school or school district, and special education personnel could plan a leadership seminar to meet one evening during the week to focus on the topic of public speaking. Most VSOs have a prepared speech and an impromptu or extemporaneous speaking contest. These contests usually feature speeches on topics related to VSO goals and current programs and are supported with rating sheets which include specific criteria that can be used to evaluate speeches. In addition, some VSOs have materials on the topic of public speaking that can be used in a seminar. Seminar content could include the following:

   1. an overview of the importance of public speaking skills;

Figure 11.1

VSO CROSS-TRAINING MEETING AGENDA

1. Introduction of participants (special educators/VSO advisor)
2. Overview of meeting purpose
   A. Share plans for building a VSO support team
   B. Discuss how special education personnel can participate on a team
   C. Discuss how VSO advisors can give and request information
3. Show a motivational film on a VSO organization
4. Present brief overviews on each VSO in the school or district
5. Have a VSO advisor present a case study problem on a special needs student who was integrated into VSO activities
6. Havea special education teacher discuss his/her involvement in working with a VSO advisor regarding a special needs student
7. Present a summary of areas which call for VSO advisors and support team participants to work together such as tutoring, chaperoning, judging, co-advising, assisting in modifying materials, contests and rating devices, etc.
8. Develop a plan of action to establish VSO support teams
9. Summarize meeting
10. Share in refreshments

2. an example speech delivered by an experienced VSO student volunteer;
3. an illustrated talk on each of the components of public speaking such as opening, voice quality, platform department, etc.;
4. assignment of special needs students to work in small groups with VSO student volunteers, advisors, and special education personnel to develop and present components of speeches;
5. videotaped practice speeches given by special needs students—review and critique them together;
6. VSO materials on public speaking—share them with students and VSO support team members; and
7. a certificate of achievement for each participant for participating in the seminar.

3. Share vocational assessment information that may be relevant in the selection and modification of activities and competitive events for a given student such as manipulative skills, learning styles, perceptual handicap and disability. For example, Eddie Hill, a visually impaired student enrolled in health occupations, was interested in participating in the medical spelling contest. Eddie had to wear thick glasses to see and had to move his face close to the page to read small print such as that found in *Taber's Cyclopedic Medical Dictionary*, which is the source of terms used in the medical spelling contest. Mrs. Keith, the health occupations instructor, consulted with Mr. Newton, the special education teacher, to determine what could be done to help Eddie prepare for the contest. Mrs. Keith shared the medical contest rules with Mr. Newton, and Mr. Newton presented information about Eddie's disability and suggested some strategies that could be used to help Eddie compensate for his visual handicap. It was decided that a volunteer student aide would compile a list of the medical terms introduced in the health occupations program and would prepare a tape in which these words would be pronounced and defined. Mrs. Keith said she would review the medical dictionary and mark those terms that had been used in previous contests and have an auditory tape prepared covering these terms. Mr. Newton volunteered to work with Eddie a little each day on pronouncing and defining these terms in a simulated contest situation. Since the contest is delivered by a knowledgeable health professional who pronounces medical terms, no modifications were needed in the contest to compensate for Eddie's disability.

4. Incorporate VSO participation into the IEP for handicapped students and IPP for disadvantaged students. Input should be provided by the VSO advisor, support personnel, parent/guardian, and student. For example, Joan, an academically disadvantaged student, lacked good interpersonal skills. She was shy and withdrawn and avoided working with other students, particularly in group situations. This problem was discussed by the IPP team members and suggestions were made for helping Joan become more a part of the group and to improve her interpersonal skills. Mr. Johns, Joan's vocational teacher, suggested that Joan could develop interpersonal skills if she would become more actively involved in DECA activities. The strategies listed below appeared in Joan's IPP.

5. Jointly publicize and recognize special needs students such as club officers, project leaders, and committee chairpersons (without using labels), who have been successful in VSO endeavors and who participate in competitive events. The VSO advisor and support team can discuss ways to recognize special needs students' achievements in VSO activities. For example, special education personnel and vocational teachers can develop a VSO student recognition program such as the student-of-the-week (or month) award and publicize this accomplishment on bulletin boards in the classroom and other appropriate loca-

Short-Term Objective	Strategies, Methods, Activities and Materials	Performance Criteria	Tests/Evaluation Procedures
1. Develop the ability to function in a group setting.	a. Encourage Joan to serve on the annual committee for the MDE/DECA employer-employee banquet b. Ask Lindsey, Joan's classmate, to work with her to help her become a part of the group c. Ask Joan to fill in the employer appreciation certificates since she is good at script writing	a. 20% improvement in Joan's interaction with other students b. Develop at least two additional friends c. 100% completion of assigned responsibilities	a. Observation of Joan's social interaction b. Discussion with Joan about her work in the committee

tions throughout the school. Newsworthy articles such as the election of officers, community and school service projects, and attendance at leadership conferences and meetings also provide excellent opportunities to list special needs students' names who are involved in these activities. First, second, and third place winners of competitive events receive recognition for their accomplishments, but additional awards, such as the VICA certificates of honor, merit, and accomplishments, can be given to others who have met high standards of performance. Every effort should be made to think creatively of ways to publicize the accomplishments of special needs students in VSOs since such recognition helps these students improve their self-concept and build confidence in their abilities to succeed in other areas.

6. Work cooperatively to prepare special needs students for competitive events and to modify contest directions, contest procedures, and written test items and response modes as necessary to compensate for handicaps, and still adhere to the high standards of performance expected by other students. VSO advisors can inform other teachers who are working with a special needs student about the student's decision to enter a competitive event and provide these teachers with information and materials about the contest. If needed, a VSO support team meeting may be conducted to explore ways to modify contest materials and procedures to allow full participation of a handicapped student. Such strategies as enlarging the print of directions and test items; providing an auditory tape of contest directions, test directions, and test items; allowing students to respond orally to test items; and substituting hands-on demonstrations when possible for written test items can be employed to enable special needs students to compete in contests.

For example, Elaine, a visually impaired industrial arts student, wanted to participate in the local industrial bowl contest. This contest involved written and oral test items covering the units of communications, manufacturing, construction, and power/transportation. Mr. Matt, the industrial arts teacher, met with Mrs. Squires, the special education teacher, and discussed the contest and went over the contest materials to see if modifications were needed to allow Elaine to participate fully. It was decided that the only revision to the contest that would be needed is to enlarge the print in the contest directions and test items. This contest had a rule prohibiting the use of transmitting or recording devices in the contest area. Consideration was given to allow Elaine to respond orally to written test items but was ruled out because she could write her responses in the time provided.

7. Encourage special needs students support personnel to become involved in chapter/club meetings and activities. The following list contains examples of the ways support personnel can be involved in VSO activities.

1. co-advisor of the chapter/club or section
2. contest chairperson to plan and conduct a VSO contest
3. interpreter for disabled students in contest setting
4. judge of a VSO contest
5. chairperson for field trips and overnight meetings
6. speaker at VSO chapter/club meetings
7. member of an achievement program committee to interview degree-seeking students
8. host or hostess at social or recreational events
9. resource person to provide special services such as remedial assistance in basic skills to VSO students
10. team advisor in civic and community service projects
11. support observer when special needs students are involved in contests
12. co-teacher in the vocational classroom and laboratory
13. VSO support team member
14. recruiter and advocate for VSO special needs student involvement
15. assistant in special needs student leadership seminars
16. assistant in publicizing special needs student achievement.

8. Work cooperatively with administrators and other faculty to develop positive attitudes toward active participation of special needs students in VSOs. Perhaps the greatest barrier to special needs student involvement in VSOs is the negative or indifferent attitude held by these students, vocational and academic teachers, administrators, and parents. These attitudes can be changed only by supplying information to these groups and by creating examples of special needs students who have profited from involvement in VSO activities. This topic of negative or indifferent attitudes needs to be addressed in the IEP and IPP planning processes, and specific strategies should be identified to make these attitudes more positive toward VSO involvement of special needs learners.

MAINSTREAMING SPECIAL NEEDS STUDENTS INTO VSO ACTIVITIES

VSOs have many common programs and activities such as a program of work; chapter/club calendar;

chapter/club section meetings; individual achievement/degree programs; leadership development programs; regional, state, and national conferences; competitive events; community services; fund-raising events; social/recreational activities; communication/public speaking skills programs; public relations programs; and others. These activities and programs are interwoven into the regular vocational program in such a manner as to make it difficult to tell what is vocational program content and what are VSO program activities. These VSO programs and activities are supported with professionally prepared materials such as handbooks, guidebooks, workbooks, resource kits, secretary's and treasurer's books, audio-visuals, instructional aids, awards, and certificates. They are available through the national organization or the organization's official supplier.

The opportunities for all students to become involved in VSO activities are limited only to the extent that the local chapter/club leadership and VSO advisor make opportunities available. So many possible activities exist that it is impossible for a chapter or club to engage in all of them in one school year. Therefore, VSO chapters and clubs usually use national programs of work and major activities as a guide to developing their own program of work and work calendar.

Special needs students, given appropriate support services when necessary, can participate in the mainstream of these activities. It is important that they be encouraged to participate. A balanced VSO program of work contains the activities in which most students need to participate to further develop their knowledge and skills required to prepare for satisfying employment and an independent, productive life in their family and community. Major VSO activities are briefly described in the following pages, with suggestions and examples of how to involve special needs students in them.

VSO PROGRAM OF WORK

The national VSO organizations have recognized the importance of well-prepared programs of work and have developed national programs of work with major topics that are related to the goals of the organization. Examples of these major programs of work topics include personal growth, scholastic/educational topics, professional topics, civic/community service, safety, cooperation, public relations, social/recreational topics, financial topics, and teacher recruitment. VSO members can identify many activities under each one of these major headings, which meet their needs and the needs of the organization with consideration given to meeting the needs of the school and community. For example, one of the easiest topics to develop is the social/recreational topic. Examples of activities that can be selected by members are skating party, swimming party, dancing, talent show, cookout, picnic, hayride, athletic activities, orientation of new members, school open house, and trip to an amusement park.

Through active participation in the program of work planning process, special needs students have a firsthand view of the broad range of opportunities they have to meet new friends and experience personal growth. Special needs students, along with other students, have the opportunity to select those activities that are of interest and that meet individual needs. Special needs students also have opportunities to improve their interpersonal and group participation skills, and long-range planning skills through active involvement in chapter/club meetings and committee assignments.

The program of work serves as an outline of activities covering a definite time period—usually an entire school year. It should contain a listing of specific goals/activities, strategies for accomplishing them, persons responsible for each activity, and provisions for monitoring and evaluating each activity in relation to its goal.

In developing the program of work, copies of last year's program and programs of work from other chapters should be provided to members prior to the planning meeting. Special needs students could be given exercises in developing the program of work by completing program-of-work worksheets (Figure 11.2). VSO advisors can also ensure special needs student involvement by talking with students who will be presiding during the program-of-work planning meeting and asking them to call on as many students as possible, especially special needs students.

During the planning meeting all students are given an opportunity to brainstorm and identify possible activities under each major program-of-work topic. After the group makes a tentative selection of activities, a program-of-work committee should be appointed and subcommittees formed to develop activities under each major topic area. Special needs students along with other students have the opportunity to learn how committees operate and how to participate actively in them.

The program-of-work committee presents the tentative program of work for review at a meeting of the entire VSO membership. Revisions and editorial work are performed on the tentative plan and are sent on to the school administration for approval. Once the program receives administrative approval, the program of work is brought before the VSO members again for

Figure 11.2

EXAMPLE PROGRAM-OF-WORK WORKSHEET

VSO________________ 19____Program of Work Date________________

School________________ Program________________ Advisor________________

Major Topic: Activities/Projects	Date	Strategies for Accomplishing	Members Responsible	Evaluation Procedures

formal adoption and to assign permanent committees to plan further and conduct program-of-work activities.

The program-of-work activity provides many learning experiences for special needs learners and other students. These experiences should be identified by the VSO advisor and VSO support team and become short-term instructional objectives in the IEP/IPP for special needs learners.

Chapter/Club Calendar

Another major planning activity in which special needs students and other VSO members can be involved is planning the organization's calendar. VSOs carry on many activities during the year. A calendar of events must be planned and strategically scheduled to ensure the success of club activities. For example, early in the school year, organizational activities such as the election of officers take precedence over planned social events.

Planning the chapter/club calendar can be a valuable learning experience for special needs students as well as other students. Every student needs to learn how to develop a schedule of events and to establish realistic time frames for events. Advanced planning is often one of the most important factors determining whether an activity is effective or a failure.

VSO advisors and support team members can provide instruction about budgeting time and scheduling activities to special needs learners. Examples of previous VSO chapter/club calendars can be presented and reviewed by special needs learners in preparation for a calendar of events planning meeting. Special needs students can learn how to function in a group meeting as a consensus is sought in planning the calendar of events for the organization. A completed calendar of events can be provided to each student to remind them of upcoming events so they can plan for and participate in them. Most VSOs have materials available to help students and VSO advisors plan chapter/club calendars.

Achievement/Degree Programs

VSO activities are designed to function as an integral part of the regular program. Several VSOs have provided a VSO integration tool, an achievement program with specific requirements in the regular vocational program, as well as requirements of chapter/club knowledge and leadership abilities. Students progress through these programs at their own pace and are recognized for their accomplishments by necessary degrees during degree ceremonies. Examples of these achievement/degree programs include (1) the Vocational Initiative and Club Achievement Program in VICA, (2) the FFA Achievement Award Program, and (3) the Degree of Achievement Program in FHA. These programs provide structured learning experiences where individual students compete against predetermined standards, rather than against fellow classmates.

Special needs students along with other students are attracted to participate in these achievement/degree programs in order to earn the pins and stripes on their VSO jackets and blazers. For example, Mary Black, an academically disadvantaged student who performed two grade levels below the average in reading and spelling last year and threatened to quit school if her grades did not improve, was placed in Mr. Griffith's vocational agriculture program. Mr. Griffith encourages all students to participate in the FFA achievement awards program and gave special encouragement to Mary.

Mr. Griffith explained the requirements of learning information about the history of FFA, the aims and purposes, the colors, and the motto and creed of the organization. He also discussed the requirement of selecting a supervised agricultural occupational experience program. Mary was reluctant to participate at first, but Mr. Griffith assured her she could do it and that he would provide her with assistance if needed.

Mr. Griffith met with the school system's disadvantaged specialist and Mary's remedial reading teacher and shared the FFA achievement awards program materials with them. They included the objectives of earning the Greenhand Degree on Mary's IPP. Mary is making progress on the Greenhand Degree requirements. Her reading teacher is working with her on learning the aims and purposes of FFA, the colors, motto, and creed. The disadvantaged teacher is also providing assistance with these requirements but is also helping Mary choose and understand the supervised agricultural occupational experience program. Mr. Griffith is providing time in class for Mary to practice reciting the purposes, colors, motto, and creed required for the degree. Mr. Griffith feels sure Mary will be ready for the test by the end of the quarter.

Chapter/Club Meetings

The chapter/club meeting is one of the most powerful instructional tools provided by VSOs. Many students, especially special needs students, have never participated in a formal business meeting of a group and they need to learn how. Our democratic society conducts business through millions of meetings every day and it is important that students learn how to function effectively as leaders and/or members of all types of groups.

Most VSOs have developed materials that VSO advisors can use to help all students learn the skills required to participate competently in group meetings. These skills include (1) planning and understanding a meeting agenda, (2) conducting business using parliamentary procedure, (3) making introductions, (4) functioning in committee work, (5) inviting and receiving special guests, (6) making award presentations, (7) speaking before groups, (8) writing business correspondence, (9) using group dynamic skills to accomplish group tasks while maintaining group harmony.

An example case study follows to illustrate how one vocational teacher used the *VICA Meeting Kit* materials to help a handicapped student develop skills required to actively participate in club meetings.

Dana Locke is a 10th grade learning disability student enrolled in Mrs. Black's cosmetology program. Dana was shy, withdrawn, and she avoided group situations if possible because she did not have any experience in working with groups other than those provided in school. Dana's brother, Matt, was a VICA member in the 12th grade graphic arts program and he persuaded her to join the cosmetology VICA section. Mrs. Black noticed that Dana was very apprehensive during the orientation meeting and could barely introduce herself to other members.

Mrs. Black discussed Dana's problem with groups in the IEP planning meeting and the team agreed to include the statement of "Improve the ability to function in group situations" as one of the IEP annual goals. Mrs. Black reviewed the *VICA Meeting Kit* materials with the IEP team members, and they decided to use this material as the IEP curriculum to help Dana accomplish her IEP goal. Additional meeting kit materials were purchased so Dana's special education teacher and her remedial reading teacher could work as a team with Mrs. Black to assist Dana in developing group meeting skills. Figure 11.3 shows Dana's IEP VSO component. The IEP team felt that the meeting kit materials involving simulation, role-playing, exercises, games, and assignments could be mastered by Dana without modification if the team members would coordinate instruction in their programs.

Officer Elections/Training

The elections of VSO section, club, and chapter officers is an exciting event in which all students can participate. It is a natural occasion to teach leadership skills. Most VSO organizations have materials that can be used by members and the VSO advisor to develop leadership abilities and to conduct the election of officers process. One excellent example of such materials is the *Leadership Techniques* booklet produced by OEA. This source covers topics on (1) what is a leader? (2) opportunities for developing leadership, (3) the election and installation of officers, and (4) officer responsibilities and leadership training. The *Teacher's Tool Kit*, provided by VICA, also has excellent materials for use in conducting the election of officers process, including large posters with descriptions of officer's duties.

Special needs students can run for VSO offices just as other students do and can become good officers if they receive appropriate training. The Charlie Briggs story is proof that special needs students can become effective VSO officers.

Charlie Briggs, a speech-impaired handicapped student enrolled in vocational officer occupations, decided to run for the office of secretary. Charlie was a bright, capable student but could not speak well because of a birth defect. At first his classmates laughed when he told them he wanted to be their secretary, but soon they realized he was serious about his plans.

Mrs. Hunter, the office occupations teacher, talked with Charlie about running for office as the OEA secretary and encouraged him to submit his nomination. She told him that he could have the minutes of meetings taped by another student and presented to the group or have another student read them to the group and that he could handle all other functions well. Mrs. Hunter talked with some of the key students in the class and told them how a slight modification in regular secretarial duties could make it possible for Charlie to serve as secretary. Charlie was able to obtain enough student signatures to qualify to run for office.

Mrs. Hunter used the *Leadership Techniques* booklet with the entire class in preparation for the election process. She shared the booklet with the speech therapy teacher who was working with Charlie two hours each week. The speech therapy teacher helped Charlie prepare for his campaign speech. Mrs. Hunter provided Charlie with instructional materials about the job of chapter secretary, which he reviewed on his own time.

Charlie secured the support of several of his close friends who helped him prepare for and conduct his campaign. On the day of the election, Charlie gave his best speech ever and demonstrated the poise and qualities of a leader. Charlie won the election by one vote.

Figure 11.3

SAMPLE VSO IEP COMPONENT

Student Name Dana Locke

Date IEP was Written 9/20/85

IEP Coordinator Mrs. Warren

Program(s) Cosmetology, Special Education, Reading

Annual Goal(s) Improve the ability to function in group situation Review Date(s) 6/10/86

Quarter/Semester Goal(s) ________ Review Date(s) ________

Instructional Task(s) Participate in committee, function in business meetings, plan, create and follow-up special VSO programs

		Evaluation of Instructional Objectives		
Short-Term Instructional Objectives	**Instructional Strategies Methods and Materials**	**Performance Criteria**	**Tests/Evaluation Procedures**	**Evaluation Date/ Results** **M = Mastery** **I = Incomplete**
1. Placed in a committee situation, actively participate in committee assignment ending in a committee report	a. Share VICA meeting kit materials with special education teacher and remedial reading teacher b. Implement sections and one and two on committees c. Coordinate in-class instruction with support members d. Assign Dana to the same committee initially	a. Evidence of increasing participation b. Completion of committee report to 70% level c. Establishes at least two new friends	a. Observation of committee work b. Evaluate committee report assignment	
2. Placed in a group business meeting situation, demonstrate an understanding of business meeting procedures by actively participating in parliamentary procedure and other meeting functions	a. Implement sections 1-3 of the business meeting materials in the meeting kit b. Coordinate classroom instruction with special education and reading teacher c. Place Dana in a club business meeting contest practice team d. Assign a peer student to assist her with student workbook assignments	a. Agenda must be at 80% level b. Meeting called to order correctly c. Parliamentary procedures at 80% level	a. Evaluate agenda assignment b. Evaluate call to order demonstration c. Evaluate parliamentary procedure demonstration	

Mrs. Smith provided officer training sessions after school for chapter officers. She also took her chapter officers to the state officers' training workshop which was held in October, and it was very educational. Charlie is doing a quality job as secretary of the local OEA chapter. He is a different student now with many new friends. He has earned the respect of his classmates and has provided a role model for other handicapped students to follow in the future.

Competitive Events

One of the most visible programs offered by VSOs is their competitive events. Every VSO has a competitive event program with events in the leadership area and occupational area. These events or contests take place in the local school and at the area, region, state, and national levels. VSO competitive events are designed to provide opportunities for students to compete against others in demonstrating the leadership abilities and occupational skills they have received in their vocational programs. These competitive events provide a powerful incentive for the students to excel in their occupational preparation programs.

Special needs students should be encouraged to compete in competitive events. Given adequate preparation, and slightly modified contests if necessary, these students can compete head-to-head with other students in competitive contests.

The key to successful participation in competitive events is adequate preparation. Special needs students, along with other students, need to apply themselves to the best of their ability in the vocational program. Special needs support team members can provide assistance with technical terms and assist students with reading and following directions required in contests. Special needs teachers can also provide encouragement and support by spending time with special needs learners as they practice contest skills.

VSO competitive contests are available as individual events or as team and chapter/club events. The variety of competitive events available in each VSO should make it possible for every student to become involved in these incentive programs. Every student wants to be a winner—to receive recognition through compliments from parents and classmates, as well as through receiving medals, ribbons, trophies, plaques and cash awards. Every student benefits from the experiences gained while participating in competitive events.

An example competitive event in which special needs students have participated successfully is the VICA job skill demonstration contest. This contest involves demonstrating a skill and explaining the topic and process through the use of examples, experiments, and displays. The advantage that this contest offers is that contestants pick the content for the contest and have the opportunity to practice the actual contest many times before they are evaluated by competent judges. Another advantage of this contest is that it is only five to seven minutes long, which requires much less physical stamina than other contests of a skill nature, which may run one to four hours long.

An example case history of Ronda Parker, an economically and academically disadvantaged student, illustrates how special needs students can participate in competitive events. Ronda, an 11th grade masonry student, entered the area job skill demonstration contest. She selected the task of how to lay bricks to a line as her demonstration topic. Mr. Gutchall, her masonry instructor, reviewed the contest rules with Ronda carefully and told her what the judges would be looking for during her skill demonstration. Mr. Gutchall contacted the school disadvantaged specialist and reviewed the contest requirements with her. In addition, Ronda's English teacher was consulted regarding the contest and she offered to help Ronda with the explanation part of the contest.

The job skill demonstration contest objective was added to Ronda's IPP and the team members planned strategies that would help Ronda prepare for the contest. Each teacher spent time with Ronda on their part in the preparation process. As the contest date neared, a practice contest situation was scheduled two times each week when all IPP team members could observe and evaluate Ronda's performance. On the day of the contest, Mr. Gutchall and the disadvantaged specialist were in the contest room as spectators to lend their support. Ronda won first place in the contest and earned the right to represent her area in the district VICA job skill demonstration contest.

Leadership Conferences

The final VSO activities discussed here are the region, state, and national leadership conference activities, which are excellent opportunities for VSO members to compete in leadership and occupational skill contests, participate in leadership skills and officer training workshops, serve as delegates representing their schools, districts and states, travel to new cities and states and meet new friends, share ideas, and develop new attitudes toward cooperation and national pride, and receive inspiration to further achievement in their VSO. Special needs students can participate in these conferences with other vocational students with little or no additional preparation. All students who serve as delegates should be prepared to represent their school or state on matters of common concern. If delegates are to introduce motions or make remarks they should be prepared to do so before arriving at the conference. Delegates and others attending leadership conferences should be reminded of expected behavior since the way they participate in these conferences reflects their chapter, district, or state association. VSO advisors should share conference agenda with students and prepare them for conference activities to ensure maximum participation.

Not every VSO member can attend leadership conferences, so students earn the right to represent their local chapter by actively participating in their chapter's activities. Special needs students such as economically disadvantaged students may lack experience in traveling to conferences and spending nights away from home in hotels or at camps. VSO advisors should work with the students, parents, and appropriate support personnel to prepare these students for the trip. If special needs students are to participate in the conferences as a contestant or presenter, the IEP/IPP support team should prepare the team member thoroughly ahead of time. VSO advisors should assign special needs students to a responsible lodging group and ask a peer student to serve as their big brother if necessary. The VSO advisor should ask parents or school personnel to serve as chairpersons at all such events to ensure the safety of all students.

The following suggestions and requirements should be given to all students who attend leadership conferences.

1. Obtain parents' permission and provide a liability release form.
2. Develop a list of clothing and other equipment and materials needed for each student to bring to the conference.
3. Go over expected conference behavior rules and regulations.
4. Go through a dry run of registering for the conference and conference lodging.
5. Upon arriving at the room, unpack clothing and organize it to avoid conflict with other students.
6. Check to see what emergency exits and fire extinguishers are located.
7. Review the conference agenda and mark those events you must attend and those you wish to attend.
8. Walk with friends or with your advisor to the locations of meeting which you plan to attend.
9. Walk with friends or with your advisor to the restaurant where you plan to eat, in or near the hotel.
10. Be in your room when you are expected to be there.
11. Be prepared to report your activity to fellow classmates when you return from the conference.
12. Be sure you know what to do in the event that a roommate gets sick or if another emergency occurs.

It is important to encourage special needs students to participate in these conferences since they are excellent opportunities for personal growth and inspiration to further achievement in the VSO and vocational program.

VSO MODIFICATION IDEAS

One of the perceived barriers that inhibit special needs students' involvement in VSOs is insufficient and inappropriate activities. This barrier may well be more perceived than real since most vocational instructors who have been successful in involving special needs learners in VSOs indicate that most aspects of the organization require little or no modification for these students. The following ideas may be useful in better meeting the unique needs of special needs learners (Sarkees and Sullivan, 1985):

1. Special needs students may have difficulty reading VSO materials. These materials may be adopted for use by special needs students by rewriting them in simpler language, by recording them on tape, by presenting them in larger type, etc. For example, VSO materials that may be difficult to read include emblem ceremonies, installation programs, competitive events handbooks, and student handbooks.
2. Instructional strategies used in VSO activities may need to be carefully selected to meet the various learning styles of students. Special needs students often profit more from action oriented strategies such as role playing, video demonstrations of events, observing others, working one-on-one with students in the buddy system, etc.
3. Handicapped learners may experience physical barriers in facilities where VSO meetings and contests are held. These facilities should be checked for barriers before they are selected to accommodate VSO activities and events. Appropriate modifications may be needed to overcome a barrier in a facility should other facilities be unavailable.
4. VSO leadership activities such as serving as an officer often required memorization and oral recitation which may be a problem for some special needs learners. These problems can be overcome by providing learning experiences on the trouble areas ahead of time and by working with in-school special needs students support teachers to reinforce instruction in these areas. For example, VICA student officers must learn their parts to participate in the emblem

ceremony. Vocational teachers can video tape this ceremony ahead of time and use it to help students learn their parts. Special needs teachers could also borrow the tapes and use them in their classes as a demonstration of public speaking skills. Overhead projection of officer speeches could be displayed on a screen until the officers learn their parts.

5. Many competitive events require the students to read directions and other materials. Some special needs learners may be able to perform the contest activity well but cannot read the directions. Directions may have to be printed in larger type, converted to a prerecorded audiotape, or given orally. Directions can also be written in simpler terms and made more readable with drawings and illustrations.

6. Hearing-impaired and limited English-speaking students can participate in VSO activities and competitive events if the service of interpreters is provided. For example, interpreters have been provided at national VICA contests to enable hearing-impaired students to participate.

7. Many students who compete in VSO activities and events experience high levels of anxiety and tension. Special needs learners may experience even higher tension and anxiety levels because of their low self-esteem and confidence. There is no substitution for preparation for competitive activities. Vocational teachers and support personnel need to provide repetition and practice for all students to promote overlearning of the knowledge and skills required for a competitive task, which usually lessens apprehension.

8. Participating as a contestant in an area, region, state, or national VSO contest is a new and stressful experience for most students. It is not uncommon for students to get lost in meeting facilities and to fail to attend required briefings for competitive contests. VSO advisors should arrive at the contest sites early and provide a dry-run experience for students so they know where to go and what to expect. Contest designers can facilitate logistical concerns by using appropriately displayed posters and signs and by color coding contest signs, numbers, and materials.

9. Some contest judges may have no previous experience in judging student effort in competitive events. Contest judging can be made more objective if a judge's briefing is conducted in which judges are informed about the nature of student contestants, the school programs (without naming schools) in which the students are enrolled, student learning characteristics, and student needs.

10. One of the logistical problems for all VSO advisors is providing transportation and supervisory services for students to meetings, conferences, and competitive events. Special consideration should be given to the unique needs of disadvantaged and handicapped students in these two areas. For example, the VSO advisor may find it desirable to make room assignments so that one or more mature, responsible students are paired up with a special needs learner. Additional adult supervision may be required when bus transportation is provided to competitive events. Funds for travel expenses may be raised through club activities so all eligible students can participate in out-of-school activities.

11. Special needs learners often have low self-esteem and self-confidence. It is a good practice to encourage special needs learners to participate in committee work and group activities so they can experience success before they venture into individual activities. Another good practice is to encourage students who want to become committee chairpersons or officers to serve as apprentices with past or present officers and chairpersons to "learn the ropes."

12. Special needs students sometimes need more time to complete a project, activity, or contest because of disabilities. Special consideration should be given to time limits that would allow all students to participate, tempered with realistic work expectations.

13. Special needs students may need more sequenced, structured activities and materials than other students. It is a good practice to plan meeting materials in advance by using a meeting agenda planning form which can be completed by participating students. Figure 11.4 is an example meeting agenda planning form. Special needs students who are to present before the group should be provided with appropriate note cards and possibly scripts to reduce anxiety and ensure success. When planning VSO activities, the advisor should help students outline the steps required to complete activities. Contracts for project completion should be carefully prepared with clearly defined goals, objectives, steps, and directions that are appropriate to the unique needs and abilities of special needs learners.

14. Special needs learners often have trouble participating in meetings for a variety of reasons, including poor self-image, lack of confidence, and lack of general meeting and leadership skills. VSO advisors with assistance from special needs support personnel should set aside time and present instruction to help students develop these important meeting and leadership skills. Most VSOs have excellent materials, such as the *VICA Meeting Kit,* to support instruction in this area.

15. Special needs students along with other students can profit from individualized or self-paced instructional materials covering aspects of VSOs. Vocational

Figure 11.4

VSO AGENDA PLANNING WORKSHEET

VSO Advisor______________________________ VSO______________________________

Date Approved______________________________ Meeting Date______________________

ORDER OF BUSINESS

1. Opening:

____

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____

2. Minutes:

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3. Correspondence:

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4. Officer/Committee/Special Reports:

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5. Unfinished Business:

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6. New Business:

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7. Program:

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8. Special Ceremonies:

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____

9. Closing:

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10. Entertainment/Recreation/Refreshments:

____

____

teachers can prepare individualized learning packages on a number of VSO topics such as chapter/club meetings, opening ceremonies, parliamentary procedures, and preparing and presenting speeches. Most VSOs have a variety of well-prepared materials that can be used to support individualized learning materials.

16. Some competitive events employ written tests, which may cause problems for some special needs learners. These written tests can be modified as needed by converting them to audiotapes, reading the items aloud, allowing oral responses instead of written ones, and substituting hands-on demonstrations for written tests.

17. VSO activities and competitive events are an integral part of the instructional program. All students should be given the opportunity to compete in some portion of their instructional program as a learning experience at the local school level. The VSO advisor and VSO support team can plan and hold the local competition so that all students can participate. All students should receive some form of recognition and not just the winners. All VSOs have certificates and awards that can be given to those students who enter competition and do their best.

18. Special needs students learn a great deal from other students. VSOs emphasize working together to accomplish goals and projects. VSO advisors should promote the buddy system (pairing a special needs learner up with a capable student) as a method of enhancing student development in building self-confidence and increasing the level of participation of the special needs learners.

19. Many local vocational schools have more than one vocational student organization. VSO advisors and support team personnel should plan and work cooperatively together to conduct leadership seminars for officers and committee chairpersons on such leadership topics as conducting chapter/club meetings and fund-raising activities.

This list contains only some of the ideas to increase special needs student involvement in VSO activities and events. Vocational teachers with assistance from the special needs support team members can come up with many more ways to improve the match between special needs students' capabilities and VSO activities. VSO participation should be a major component in the IEP for handicapped learners and the IPP for disadvantaged learners and should be jointly planned by all parties involved.

Creative Ideas

There is a tendency to duplicate national VSO activities, awards programs, and competitive events because these experiences are well established, organized, and supported with written materials such as handbooks, guides, rating sheets, and awards. This practice is accepted widely; however, vocational teachers and VSO support team personnel should consider other worthy activities to meet the unique needs of special needs learners, while at the same time, provide benefits to other students.

One example activity that could be developed is to form job clubs. The job club activity organizes students into a group that investigates all the factors involved in locating, obtaining, and making progress on a job. Activities may include members uncovering the hidden job listing (unadvertised jobs) through use of the telephone, direct contact with employment sources, and networking strategies with friends, parents, and relatives. Students role-play how to open and close job bids, how to respond to tough questions in an interview, how to meet employer's expectations, how to work with other employees, and how to adjust to supervision styles. Vocational student organization materials such as job interview contest materials could be used to support this activity. National VICA has a job program that can be used as a source of ideas for this activity. In addition, many commerically available materials on the topic of finding and keeping jobs could be obtained for this activity.

Another activity that could be developed is the creation of a futuristic community. Students could gather information from written materials and interview community leaders to determine how the community might look 20 years in the future. Students could recreate the community in model form by applying new technological advances in transportation, energy, communications, housing, agriculture, business, industry, government, and health care. All students would be actively involved in this project, which provides opportunities for students to work cooperatively together and to use their creative talents.

The two activities presented above are only examples of creative, futuristic activities that could be developed. These activities would capture student interest and provide opportunities for students to gain new knowledge and skills and to apply what they have already learned in an interest area.

VSO ADVISOR FUNCTIONS

Besides encouraging special needs students to become active VSO members, advisors perform a number of other functions that are important for special needs student growth and chapter/club success, including the following (Fracaroli, 1981 and Sarkees, 1983):

1. Advise and guide special needs students in selecting VSO activities in which they are interested and have a high probability of successful involvement. It is important for some special needs students to engage in group activities first and advance to more demanding individual ones.
2. Provide supervision of activities that enables special needs students to understand the interrelationship of vocational instruction and their VSO.
3. Provide instruction for special needs students in the management steps of planning, preparing for, executing, and evaluating VSO activities and projects.
4. Provide assistance to special needs learners in developing and applying leadership, human relations, and communication skills in the classroom and in VSO activities.
5. Provide assistance in helping special needs students set realistic goals for self improvement.
6. Provide assistance to special needs students who are competing against standards in achievement programs and those preparing for competitive events.
7. Provide encouragement to special needs students to run for VSO officers and volunteer to chair and serve on committees.
8. Provide training for special needs students who are serving as officers and chairpersons.
9. Recommend resources and resource materials that will help special needs students participate fully in VSO activities.
10. Suggest resources to finance and implement chapter and individual student activities so that the economically disadvantaged can participate fully in VSO activities.
11. Coordinate VSO instruction with other school personnel to help special needs students prepare for and participate in VSO activities.
12. Inform the school administration, faculty, students, parents, vocational advisory committee members, and the community about special needs student involvement in individual and VSO chapter/club activities.
13. Arrange for transportation for special needs students to and from VSO meetings.
14. Devote extra time to advise in out-of-school VSO activities.
15. Form VSO support teams to help special needs students profit from VSO activities.
16. Promote the buddy system between special needs students and other students in VSO activities.
17. Prepare special materials to help special needs students succeed in VSO activities.

SUMMARY

Participation by special needs learners in VSO activities offers many benefits. Participation in chapter/club activities satisfies the basic needs of all students to belong to something larger than themselves, to feel a part of the organization, school, and community. The development of social skills, which is emphasized by all VSOs, is especially important in helping special needs students improve their self-concept, initiative, and enthusiasm for self improvement. The communication and leadership skills developed through active participation in VSOs not only help special needs learners communicate better with those around them, but also help them use their talents to make the school and community a better place in which to live and work. The occupational knowledge and skill development that are basic to all VSOs prepare special needs students to enter and succeed in their chosen career fields and to live a life of independence. VSOs have something for everyone and they provide benefits for everyone—the student, the teacher, the school, and the community.

SELF ASSESSMENT

1. Describe when and how VSOs developed.
2. Define the concept of a VSO.
3. List some of the benefits and advantages VSOs provide to students, teachers, schools, and communities.
4. List some of the barriers that inhibit special needs student involvement in VSOs.
5. Describe the legislation that has guaranteed special needs students the right to become involved in VSOs.
6. Identify and briefly describe the nine nationally recognized VSOs presented in this module.
7. List some of the advisor functions in implementing VSOs as an integral part of the instructional program.
8. List some of the ways you could involve support team members in VSO activities.
9. List some of the ways you might need to modify VSO activities to enhance special needs student involvement.
10. Identify one major VSO activity, such as competitive events, and describe how a given special needs student could successfully participate in it.

ASSOCIATED ACTIVITIES

1. Write to the national headquarters of VSOs and obtain copies of appropriate materials to increase your

knowledge of VSOs and to help you support their operation.

2. Attend VSO leadership workshops and conferences that may be offered locally, regionally, or at the state and national levels.
3. Visit a vocational school and observe how VSO activities are incorporated as an integral part of the vocational curriculum.
4. Volunteer your services to a vocational teacher/advisor to support VSO activities and events.
5. Attend the VSO competitive events held at your school, area, district or region, and state.
6. Obtain films and other mediated materials on VSOs and use them in your classes.
7. Obtain VSO materials such as materials on leadership skills, communication skills, and parliamentary procedures and incorporate them into your units of instruction.
8. Volunteer your services to the state VSO advisor in your occupational interest area.
9. Become a professional or honorary member of the VSO of your choice.

CASE STUDY: JEAN'S STORY

Jean is an 11th grade disadvantaged student who comes from a broken home. Her father died when she was two years old and she lives in a low-income housing unit with her older sister and mother. Jean's mother works long hours at a low-paying job to provide for her family. Jean and her sister have not had the opportunities in the home to learn like other children, and her home life and environment have affected Jean's performance in school.

Jean is enrolled in the 11th grade drafting program in her comprehensive high school. She is functioning two grades below average in reading and one grade level below average in math. She earned "C" grades in all of her subjects in the tenth grade except drafting, in which she earned a "B" grade. Jean has expressed her intentions to quit school and find employment to help with the financial difficulties at home.

Jean is a shy, modest girl of average appearance. She stays much to herself with only a few friends. She was encouraged to join her VICA section in drafting last year but declined because she felt she could not contribute.

Jean's drafting instructor recently met with the IPP planning team, which identified a need for Jean to belong to some organization or group. The drafting instructor and disadvantaged specialist encouraged Jean to join VICA, but she was undecided.

In January, several of the VICA students in her class and several of the club officers asked her if she would assist them in preparing an architectural display as their entry in the State Display Contest. At first she declined but eventually gave way to their persistence and agreed to work with Marla, a drafting student in her class who was a VICA member.

The drafting instructor assigned all of his students an architechtural design project and agreed to let Jean and Marla develop their assignment together on the VICA club display contest project. Jean and Marla had spent many hours over the past two months during school hours and after school on the design project. They have become good friends and Jean has become friends with other students who were also working on the display.

Jean is developing a sense of belonging as evidenced by her change from inactivity to active participation in school activities. She is now a regular VICA member, owing to her section's fund-raising activities, which paid the dues for members who could not raise the money.

Jean's disadvantaged specialist obtained VICA materials such as the *Leadership Handbook* and *U.S. Skill Olympics Regulations* and incorporated them into Jean's reading program. Jean's reading skills showed continuing improvement. She now realizes the importance of reading and spends many hours at home reading assigned materials.

The VICA club met two weeks ago and designated Jean to be their representative in the State Display Contest. Jean's teachers worked with her on public speaking and interview techniques required for the contest. Jean had taken an exceptional interest in preparing for this contest and has shown progress in her drafting class.

Last week Jean attended the State VICA Conference. It was the first time she stayed away from home in a motel and was glad to have her friend, Marla, and two other girls as roommates. Jean and her VICA club came in second in the Display Contest, which was disappointing to Jean, but she took it in stride with the comment, "Wait till next year."

Jean's attitude, personality, and behavior have changed drastically. She has improved her reading, math, and other course grades. She earned an "A" in drafting, which was the first "A" she had earned in high school. Jean is talking about finding summer employment in drafting at a local engineering firm. Her teacher is assisting her with the contact persons and has set up an interview.

Jean has established many friendships and definitely feels part of the group. Some of her teachers and friends ask her what caused her to change. She replies with a self-confident smile, "Joining VICA helped me to feel needed and gave purpose to school. It is the best thing that ever happened to me."

RELATED ACTIVITY

Debbie McComb is the marketing and distributive education teacher in a comprehensive high school located in a small town serving a mostly rural population. She is one of six vocational teachers; the other occupational teachers are from industrial arts, diversified cooperative training, agriculture, home economics, and business education. The vocational supervisor, Mr. James, is a former marketing and distributive education teacher and a firm believer in the value of vocational student organizations. All vocational programs in the school have incorporated student organizations into their instructional programs.

Debbie has two EMR students in her program and four disadvantaged students. These students participate only minimally in DECA activities and have not become official members. Debbie has talked with each of these students and encouraged them to become members, but they have resisted on grounds that they could not participate successfully in most DECA activities.

Recently Debbie met with Mr. James and the other vocational teachers in a faculty meeting and presented the problem to the group. Several other vocational teachers expressed similar problems. Mr. James asked if student organization activities were included in the IEP and IPP for these students, but most teachers had not included them. Mr. James suggested that each vocational teacher should establish a VSO support team to discuss ways to improve the involvement of special needs students in VSO activities. He suggested that Mrs. Holcome, the special education teacher, and Mr. Sanders, the disadvantaged specialist for the school, should be part of the team, along with parents and other appropriate individuals such as an advisory committee member or former VSO student.

If you were faced with a similar problem in your instructional area, who would you include on a VSO support team from your school? What strategies could the team identify to encourage these students to become active participants and members?

Choose a handicapped student from your school and develop the VSO portion of the IEP for this student. Choose a disadvantaged student and develop the VSO portion of the IPP for this student. Identify the activities in which you would encourage these students to participate. Be sure to include any modifications or support that would be needed for these special needs students.

VOCATIONAL STUDENT ORGANIZATIONS

American Industrial Arts Student Association
(AIASA)
1908 Association Drive
Reston, VA 22091

Distributive Education Clubs of America (DECA)—
Delta Epsilon Chi (DEC)
1908 Association Drive
Reston, VA 22091

Future Business Leaders of America (FBLA)—
Phi Beta Lambda (PBL)
1908 Association Drive
Reston, VA 22091

Future Farmers of America
5632 Mt. Vernon Memorial Highway
P.O. Box 15160
Alexandria, VA 22309-0160

Future Homemakers of America (FHA)—
Home Economics Related Occupations (HERO)
1910 Association Drive
Reston, VA 22091

Health Occupations Students of America (HOSA)
4300 Highline Blvd.
Suite 212 D
Oklahoma City, OK 73108

National Postsecondary Agricultural Student
Organization (NPASO)—Postsecondary Agricultural
Students (PAS)
Box 34
Cobleskill, NY 12043

Office Education Association
5454 Cleveland Avenue
Columbus, OH 43229

Vocational Industrial Clubs of America, Inc.
P.O. Box 3000
Leesburg, VA 22075

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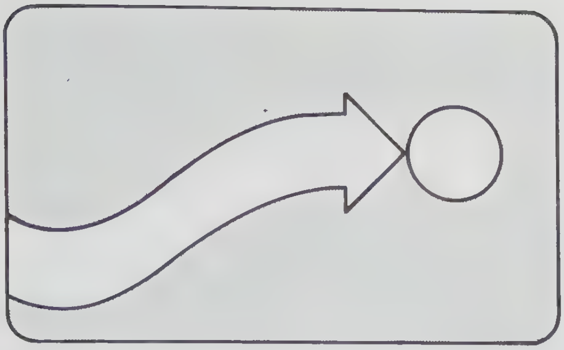

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Satisfying and sustained employment is a critical aspect of life for any adult, but for the handicapped learner, employment indicates the ability to participate fully in our society. The years of education and training are of little value to special needs learners unless they become vocationally productive and partially or completely self-sufficient.

The transition from school to work for special needs students is not easy because of their disabilities and because of the deeply engrained attitudes of the general public toward serving these individuals adequately and giving them a chance to prove their worth as productive employees. Today transition for special needs learners is a national priority. Federal mandates have provided additional incentives for educators, community leaders and employers to work together to provide vocational education and appropriate employment opportunities for special needs learners.

This module presents information that vocational educators and special needs support personnel can use to enhance special needs student transition from school preparation to satisfying, productive employment in the work place.

OUTLINE

- Transition Defined
- Vocational Education, Career Development, and Transition
- Postsecondary Transition
    - Transition Barriers
    - Overcoming Transition Barriers
- Transition Directed Toward Employment
- Transition Models and Components
- Making Transition Happen
- The Need for Placement and Follow-up Services
- Barriers to Placement
    - Barriers among Handicapped Persons
    - Barriers in the Helping System
    - Barriers within Society
- Placement Options
    - Placement in Rehabilitation-sponsored Centers
    - Placement in On-the-job Training Programs with Support
    - Placement in School System Jobs
    - Placement in Work-study Programs
    - Placement in Part-time Jobs
    - Placement in Full-time Jobs
    - Placement in Postsecondary Education
- Placement: A Team Effort
- The Placement Process
    - Building a Market for Job Placements
    - Job Profiles
    - Other Ways to Locate Jobs

    - The Preplacement Program
        - Work-adjustment Training
        - Preparing Placement Profiles
    - Placing Special Needs Persons in Jobs
        - Matching Students with Identified Job Openings
        - Finding a Job for a Specific Special Needs Person
    - Criteria for Effective Job Placement
- Follow-up Services
- Summary
- Self Assessment
- Associated Activities
- Case Study
- Related Activity
- References

OBJECTIVES

After completing this module, you should be able to do the following:

1. Explain why transition for special needs learners has been made a national priority by the Office of Special Education and Rehabilitative Services (OSERS).
2. Define the concept of transition as it applies to special needs learners enrolled in secondary and postsecondary vocational programs.
3. Identify some of the barriers to transition and strategies and techniques that can be used to reduce their efforts or eliminate them entirely.
4. Describe transition models that can be used to formalize and standardize the delivery of transition services for special needs learners.
5. Describe why job placement and follow-up services are needed to assist vocational special needs students and graduates in obtaining appropriate jobs.
6. Identify and describe some of the placement options available for special needs students.
7. Identify and describe the three major categories of barriers to employment for special needs students.
8. Describe the placement team approach to providing job placement and follow-up services.
9. Identify some of the placement team members and describe some of their major duties.
10. Describe the placement process, including conducting the preplacement program and matching students with jobs.
11. Describe the follow-up process to job placement.

CONCEPTS

Advisory or craft committees - A group of selected persons from a community or area who represent various groups in an occupational area. For example, a construction trades craft committee is made up of workers, employers, suppliers, etc.

Competitive employment - The state of being employed in an environment in which workers must be able to function as effectively as other workers.

Follow-up - The process of visiting special needs employees and employers to provide services and to obtain information upon which to base change.

Helping system - Those agencies and advocacy groups that offer services to special needs individuals to help them prepare for productive employment or to function in everyday life activities.

Homebound job - A job performed in a special needs individual's home.

Job placement - The process of gathering information about jobs, job leads and job openings; preparing individuals with job seeking skills and information; and assisting individuals to obtain initial employment.

Networking - The process of gathering and sharing employment information among individuals in the school and community.

On-the-job training - Educational and training experiences provided at a job site either for or without pay.

Self-esteem - Having confidence and satisfaction in oneself.

Special education teacher - A trained professional who develops, implements, and evaluates programs and services for physically, mentally, or emotionally handicapped learners.

Transition - A formal planned process involving special needs learners, parents, school personnel and community agency representatives, which results in the preparation and implementation of a plan to assist special needs learners in developing knowledge, skills and attitudes required to enter and succeed in postsecondary vocational education and/or sustained employment.

Underemployment - Workers employed in work activity that is well below their potential.

Work adjustment - Behaviors that must be learned in order to function effectively with fellow workers and job supervisors.

Work habits - Behaviors related to work that are demonstrated without conscious thought, such as dependability, initiative, and loyalty.

MODULE 12

TRANSITION, JOB PLACEMENT, AND FOLLOW-UP FOR SPECIAL NEEDS LEARNERS

One of the formidable adjustments of life is the movement from the secondary school environment into postsecondary education or employment. This transition experience is not easy for many learners, but is difficult for most special needs learners because of disabilities or because of limitations placed upon them by the imposed perceptions of others. Research statistics gathered since 1980 clearly reveal the problem. Hippolitos (1980) reported that of 625,000 handicapped learners who either graduated or left secondary school because of age, only 21% became fully employed, 40% were underemployed, and 26% required some form of public subsidy to support themselves. Bowe (1980) stated that the longer disabled individuals are out of school the less likely they are to find full-time employment. The U.S. Commission on Civil Rights (1983) estimated that between 50% and 80% of disabled adults were unemployed. These employment statistics are alarming considering that the educational thrust of the seventies and eighties has been on career education and career development.

The cost to our nation of this high rate of unemployment and dependence of disabled adults is high and rising. The White House Working Group on Disability Policy (1983) reported that approximately 8% of the gross national product is spent each year on disability programs with most of this amount going for dependence.

The federal government has guaranteed the right to a free, appropriate public education for all handicapped children. Considerable progress has been made in recent years in preparing these individuals for employment; however, much still needs to be done in improving school and community services that will assist special needs individuals in making the transition to satisfying employment. The Office of Special Education and Rehabilitation Services (OSERS) of the federal government has responded to this need by establishing a national priority on improving transition from school to employment for all individuals with disabilities. A major section of Public Law 98-199, the Education for Handicapped Children Amendments involves funds and support for secondary education and transition services. The increased federal emphasis on transition has resulted in increased efforts to reduce or eliminate barriers and to provide quality services for all special needs learners as they leave the public schools of our country.

TRANSITION DEFINED

Transition is defined by Webster as passage from one state, stage, or place to another. Life itself is a continuous process of transition from infancy to senior citizenship with many hurdles in between, such as adolesence, the first date, the first job, marriage, and parenthood. An important outcome of public education is to prepare learners to make these transition choices successfully so they can enjoy an independent and satisfying life.

Transition can be defined very broadly to include all of life's experiences or it can be limited to a segment of time. Will (1984) limits the definition of transition to "a period which includes high school, the point of graduation, additional postsecondary education or adult services and the initial years in employment." Her view is that transition is a bridge between the protective environment of the school to the challenging and open opportunities of employment and adult life. The transition bridge requires a sound foundation of preparation in the secondary school, appropriate support at the exit point from school and appropriate opportunities, and services as needed in adult situations.

Will's definition emphasizes the shared responsibility of all involved parties in the transition process and goes beyond the limited view of transition services as coordination, to address the kind, quality and appropriateness of each service provided. This definition of transition ties it to a process that encompasses a broad array of services and experiences that lead to employment.

Transition can also be defined in a more vocational sense. Wehman (1984) defines vocational transition as "a carefully planned process, which may be initiated either by school personnel or adult service providers, to establish and implement a plan for either employment or additional vocational training of a handicapped student who will graduate or leave school in three to five years; such a process must involve special educators, vocational educators, parents and/or the student, and adult service systems representatives and possibly an employer."

Both of these definitions view transition as an outcome-oriented process that is systematically planned, begins while learners are in high school, involves school personnel from multiple disciplines, involves parents or both parents and students, and results in quality services leading to satisfying employment or further training, which ultimately results in sustained employment.

VOCATIONAL EDUCATION, CAREER DEVELOPMENT, AND TRANSITION

For many years vocational education has been viewed by many as the bridge between school and work. Sidney Marland, U.S. Commissioner of Education, (1970) linked most of public education into preparation for careers and introduced the concept of Career Education, which was the major thrust of American education in the seventies. Career Education was viewed as a developmental process that consisted of four major stages: (a) career awareness, (b) exploration, (c) preparation, and (d) placement, follow-up and continuing education (Kokaska and Brolin, 1985). These stages of career education reflected a transition focus beginning in kindergarten and continuing through life.

The early efforts of career and vocational educators in enhancing the transition of learners from school to work resulted in many significant changes in public education. Some of these outcomes were (a) modified school programs, (b) new curriculum models, (c) a library full of career-oriented instructional materials, (d) the implementation and improvement of career guidance and counseling services, (e) a large body of professional literature on career education and career development, (f) new teacher training programs, and (g) new national and state agencies and organizations (Brolin and West, 1985).

The outcomes of the career education movement have provided many excellent programs, materials, and career development services which can be used to enhance the transition process. For example, many secondary and postsecondary schools have career development laboratories, adequately equipped with teaching materials that can be used for transition activities.

While transition is an implied outcome of career and vocational education, a systematic transition process for moving students through secondary school experiences to postsecondary training or positions in business, industry, and government services is almost nonexistent (Brown, 1982). Some of the many reasons why secondary schools have not carried out the transition thrust of the career education movement are (a) reluctance to change, (b) lack of administrative commitment, (c) lack of time and money, (d) lack of community support and cooperation, (e) lack of parent involvement and cooperation, (f) inadequate training of teachers and support staff and difficulty in working with employers (Brolin and West, 1985). Transitional services for special needs learners are further hampered by the negative attitudes of the general public and the professional community, which results in lack of commitment to serve these learners adequately. As the need for transition moves from the preparation stage in secondary schools to postsecondary institutions and the community, other barriers appear in the form of reluctance and inability of parents, professionals, community agencies, and employers to provide needed services (Brolin and West, 1985).

POSTSECONDARY TRANSITION

As the first generation of special needs learners that experienced the provisions of Public Law 94-142, the Education for All Handicapped Children Act, completed their secondary education, a growing number of educators, policymakers, and interest groups are directing their attention to the problems of transition into and through postsecondary education institutions to employment opportunities. Postsecondary transition services are clearly needed to increase the number of special needs learners enrolled in postsecondary education programs. Riffel (1981) reported in an *Interim Report of the Vocational Education Study* that only 1.1% of students in junior and community colleges were handicapped, and that only 2.2% of students in postsecondary area vocational schools were handicapped. These postsecondary enrollment statistics are unacceptable in light of Reynolds' (1981) findings that the incidence of children with handicaps in the general public is approximately 12%.

As the nature of the nation's workforce continues to change rapidly because of technological developments, demographic shifts of the population, and increased competiton in international markets, there will be a big demand to train and retrain adults for new jobs. Postsecondary institutions such as baccalureate conferring institutions, community and junior colleges, technical schools, and postsecondary area vocational schools can prepare workers to meet the changing employment needs of our nation. It is reasonable to expect that competition for rewarding jobs will increase in the future, putting disabled individuals at a greater disadvantage than ever before. One of the important goals of postsecondary institutions must be to provide special needs learners with a sound educational experience, accompanied with appropriate transition services so that these learners can compete with other students for satisfying jobs.

Transition Barriers

Some of the barriers that must be overcome to facilitate postsecondary transition are common to secondary and postsecondary transition, and some are unique to postsecondary alone. These barriers include those listed by Brown (1985) and Owens, Arnold and Coston (1985) and are as follows:

1. A general negative attitude toward serving special needs learners on the part of the professional community and the general public.
2. The lack of interagency and interdiscipline school collaboration in serving special needs learners.
3. The problem of transferring written records containing educational information concerning special needs learners due to misunderstanding of "Right to Privacy" legislation.
4. The lack of standardized and organized procedures and policies to manage the transition process.
5. The absence of role definition among the many different educators and school and community support personnel involved in the transition process.
6. A general lack of parental involvement in the transition activities for their children.
7. Inadequate identification and vocational assessment of special needs learners.
8. Terminology problems in labeling special needs learners which affect communication among individuals participating in transition.
9. A general lack of knowledge of transition service options available for postsecondary special needs learners.
10. The general lack of business and industry involvement in transition activities.
11. The lack of tested models to guide the delivery of transition services for special needs learners.
12. The failure to develop and use individualized education programs (IEPs) and individual prescribed programs (IPPs) which include transition objectives and activities for special needs learners at the postsecondary level.
13. Inadequate job placement and follow-up services for special needs learners over an extended period of time after program completion.
14. The reluctance on the part of educators to modify and adapt their curriculum and teaching methods to meet the unique needs of special needs learners.

Overcoming Transition Barriers

A considerable amount of progress has been made in recent years to reduce the effects of these barriers to successful postsecondary transition, and in some cases, to eliminate them completely. The professional literature abounds with articles dealing with the transition of secondary learners and individuals who have left school and have entered and completed postsecondary vocational education. Many of these articles offer solutions for enhancing the transition process and for dealing with transition barriers. Some of these solutions are:

1. Form advocacy agencies or groups made up of parents, vocational and special education teachers, rehabilitation counselors, employers and interested community agency representatives to identify barriers to effective transition and to form interagency linkages that would insure a continuum of unduplicated services for special needs learners (Tindall and Gugerty, 1985).
2. Plan and conduct workshops for participants involved in the transition process in each postsecondary institution's service area. These workshops should be designed to help participants identify their roles and responsibilities in the transition process and to identify the barriers to transition and explore possible solutions. Workshop participants should include the following individuals and groups either as presenters, resource persons, or active listeners: (a) postsecondary vocational teachers and support personnel working with special needs learners, (b) vocational rehabilitation personnel, (c) parents of special needs learners, (d) interested special needs learners, (e) sheltered rehabilitation center personnel, (f) private industry council members charged with the responsibility for special needs students training and services, (g) members of community groups such as Goodwill Industries, Inc., (h) staff from county and state funded agencies which serve special needs learners, (i) interested college and university personnel, and (j) employers who are interested in working with special needs learners or who are presently working with them (Tindall and Gugerty, 1985).
3. Collect and disseminate information about the many postsecondary training and employment opportunities available to special needs learners. These opportunities should include the following: (a) junior and community colleges, (b) 4-year colleges and universities, (c) technical schools, (d) postsecondary area vocational schools, (e) private schools and agencies, (f) sheltered rehabilitation centers, (g) special stations in business and industry, (h) government agencies, (i) military services, (j) private foundations and agencies,

(k) community agencies, and (l) business and industry (Schloss, 1985).

4. Develop and implement postsecondary transition models that test and refine transition policies, practices, and activities. These models should address transition barriers and provide viable solutions which will ensure the smooth transition of individuals into and through postsecondary vocational education to rewarding employment.

A postsecondary transition model by Brown (1985) will be presented in another portion of this module.

TRANSITION DIRECTED TOWARD EMPLOYMENT

For many years, one of the stated goals of education has been to provide students with the skills, knowledge, and attitudes so they could become economically independent. Wehman (1984) states that one of the major goals for the educational system should be to prepare students to be independent in their living skills and employability in the marketplace. Madeleine Will (1984) of the Office of Special Education and Rehabilitative Services states that the goal of OSERS' programming for transition is to ensure that individuals leaving the school will obtain employment, either immediately after school or after a period of postsecondary education or vocational services.

Transition should be directed toward employment of special needs learners for many reasons. First, it is very costly to support disabled Americans and the cost continues to rise annually. Second, being employed is a critical need for most adults in our society. Paid employment provides individuals with the opportunities to experience social contacts, discover and build an adult identity, demonstrate creativity, and earn income in order to live independently and contribute to our society. Equally important are the personal and social aspects of being employed, such as personal status, community integration, and use of leisure time (Will, 1984). Employment for every American has been the slogan and goal of nearly every president of our country, yet we continue to have an unacceptably high rate of unemployment for disabled individuals and others. Since becoming employed is such a critical part of adult life, the goal of transition should be directed toward sustained employment for each special needs learner.

A well-organized and well-coordinated program of providing transition services can play a major role in helping special needs learners obtain sustained, satisfying employment. However, there are other uncontrollable factors that influence achievement of the employment goal. The status of the economy, the availability of jobs, the continued practice of job discrimination, and the slowly changing negative attitudes of the general public toward disabled individuals will need to be addressed.

TRANSITION MODELS AND COMPONENTS

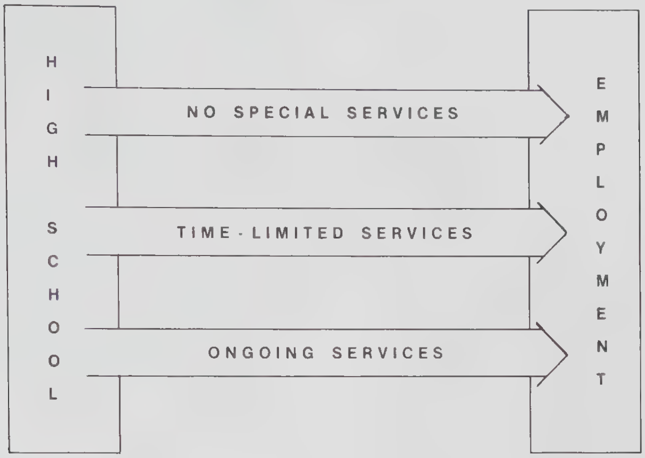
An ever increasing body of literature on the topic of transition for special needs learners reveals several conceptual models containing components and elements of the transition process. Will (1984) presents a conceptual transition model containing five major components in the form of a three-span bridge (Figure 12.1). The foundations of the bridge are high school preparation and the availability of employment. The three solid spans of the bridge represent the nature of public services used to provide support for special needs learners. The first span represents a pathway for individuals to move from school to employment without transitional services or with only those that are normally provided for all learners. The second span involves the movement of learners from school to employment with temporary services such as vocational rehabilitation, postsecondary vocational education, and other appropriate job training programs. The third span provides the individuals with disabilities with ongoing services that enable them to function in the work environment, as in the case of special stations in business and industry with supervision being provided by personnel from a designated agency.

Wehman (1984) developed a transition model that includes three stages: (a) school instruction, (b) planning for the transition process, and (c) placement into meaningful employment (Figure 12.2). The input and foundation stage of Wehman's model features a secondary education program that utilizes a functional curriculum with training activities designed to prepare learners for potential employment opportunities available in their community. Instructional experiences in school settings would be integrated to enhance interpersonal skill development with other learners. Instructional experiences would also be provided at training sites in the community to provide learners with the opportunity to develop specific job skills in a realistic work environment.

The process stage of the model involves the development of a formalized individual program for each special needs learner (IEP and IPP) that specifies the transition responsibilities of school personnel and professionals from participating agencies. Input for the plans would be obtained from students and interested parents, as well as from interagency cooperation. Interagency cooperation is a critical transition compo-

Figure 12.1

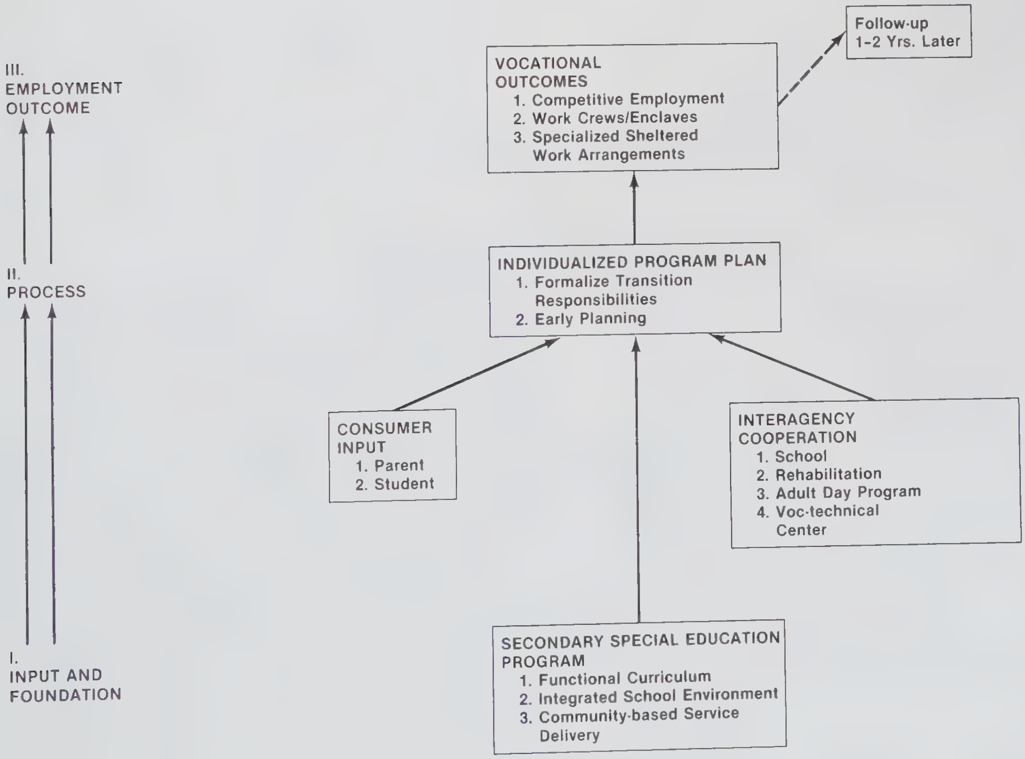
MAJOR COMPONENTS OF THE TRANSITION PROCESS


HIGH SCHOOL
NO SPECIAL SERVICES
TIME-LIMITED SERVICES
ONGOING SERVICES
EMPLOYMENT

Will, M. (1984). Bridges from school to work life. *Interchange*, June, 2–6.

Figure 12.2

THREE STAGE VOCATIONAL TRANSITION MODEL FOR HANDICAPPED YOUTH


III. EMPLOYMENT OUTCOME
II. PROCESS
I. INPUT AND FOUNDATION
Follow-up 1-2 Yrs. Later
VOCATIONAL OUTCOMES
1. Competitive Employment
2. Work Crews/Enclaves
3. Specialized Sheltered Work Arrangements
INDIVIDUALIZED PROGRAM PLAN
1. Formalize Transition Responsibilities
2. Early Planning
CONSUMER INPUT
1. Parent
2. Student
INTERAGENCY COOPERATION
1. School
2. Rehabilitation
3. Adult Day Program
4. Voc-technical Center
SECONDARY SPECIAL EDUCATION PROGRAM
1. Functional Curriculum
2. Integrated School Environment
3. Community-based Service Delivery

Wehman, P. (1984). Transition for handicapped youth from school to work. *Interchange*, October, 6.

nent and is defined as the coordinated effort across participating agencies to provide nonduplicated services to each special needs learner (Wehman, 1984).

The final stage of Wehman's model is the development of multiple employment outcomes and the placement of learners with different capabilities in the most suitable employment option. Employment options include competitive employment, competitive employment with support, enclaves in industry, specialized industrial training, mobile work crews, special work stations in industry, resource sharing, and cooperative agreements with industry (Wehman, 1984).

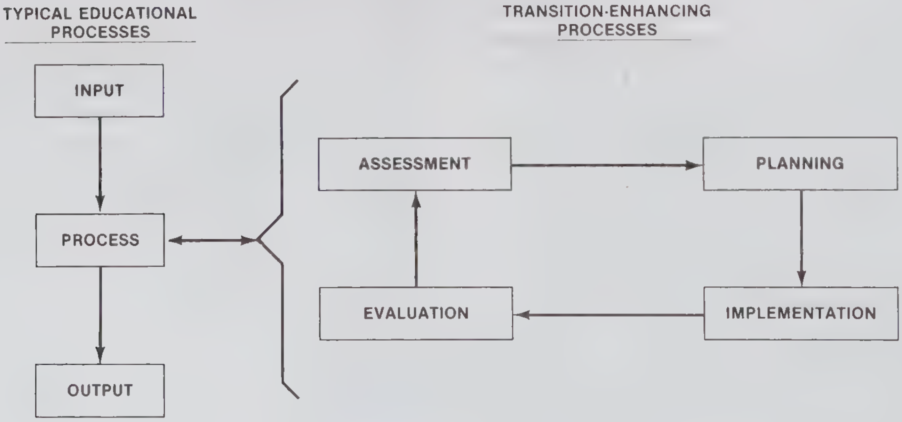
The final model (Figure 12.3a) presented here is the Model for Enhancing the Transition of Mildly Handicapped Youth into Postsecondary Vocational Education (Brown and Kayser, 1982). This model describes the three common educational processes that all postsecondary learners experience and the transition-enhancing processes required to help special needs learners enter and progress through postsecondary vocational education to employment. The educational processes are presented as three stages: (a) input, (b) process, and (c) output. The four transition-enhancing processes represent the four major steps in the educational cycle: assessment, planning, implementation, and evaluation, and are closely associated with the process stage of the model.

Both the typical educational process and transition-enhancing processes are presented in more detail in Figure 12.3b. The elements of the educational processes are: (a) outreach (input), (b) application for admission to a program of instruction (input), (c) counseling (process), (d) admission to a program of instruction (process), (e) instruction (process), and (f) program completion/noncompletion (output). These educational process elements interact with the transition-enhancing activities, which include (a) making formal and informal assessments of how well student needs and institutional needs and resources correspond, (b) planning of strategies that will help students meet institutional demands and help institutions meet student needs, (c) implementing strategies that will correct, compensate for, or circumvent problem areas where student needs and institutional needs and resources do not correspond, and (d) evaluating the effectiveness of "3 C's" strategies in increasing the level of correspondence between students and institutions, which should result in improved chances that students would complete their programs of study (Brown, 1985).

The critical transition elements of correction, compensation, and circumvention provide strategies that help the special needs learner better meet the requirements of postsecondary training experience. Brown (1985) describes correction strategies as those strategies that would result in reducing the disability or constraint in the environment so the individual could be more successful. An example of a correction strategy is to provide remedial math services for a special needs learner who is experiencing difficulty in a postsecondary electronics program. Compensation strategies would be applied to help an individual better match

Figure 12.3a

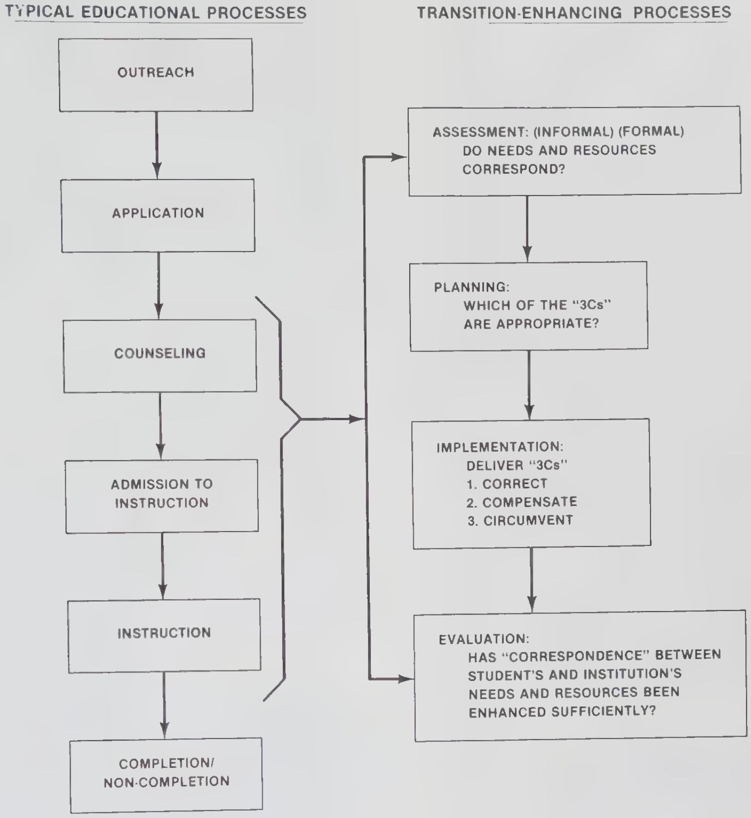
THE RELATIONSHIP OF TRANSITION-ENHANCING PROCESSES TO THE OVERALL EDUCATIONAL PROCESS



Brown, J. M., and Kayser, T. F. (1982). *The transition of special needs learners into postsecondary vocational education.* Minneapolis: University of Minnesota, Department of Vocational and Technical Education, Minnesota Research and Development for Vocational Education.

Figure 12.3b

RELATIONSHIPS BETWEEN MAJOR COMPONENTS IN THE EDUCATIONAL PROCESS AND TRANSITION-ENHANCING PROCESSES


TYPICAL EDUCATIONAL PROCESSES
TRANSITION-ENHANCING PROCESSES
OUTREACH
APPLICATION
COUNSELING
ADMISSION TO INSTRUCTION
INSTRUCTION
COMPLETION/ NON-COMPLETION
ASSESSMENT: (INFORMAL) (FORMAL) DO NEEDS AND RESOURCES CORRESPOND?
PLANNING: WHICH OF THE "3Cs" ARE APPROPRIATE?
IMPLEMENTATION: DELIVER "3Cs" 1. CORRECT 2. COMPENSATE 3. CIRCUMVENT
EVALUATION: HAS "CORRESPONDENCE" BETWEEN STUDENT'S AND INSTITUTION'S NEEDS AND RESOURCES BEEN ENHANCED SUFFICIENTLY?

Brown, J. M., and Kayser, T. F. (1982). *The transition of special needs learners into postsecondary vocational education.* Minneapolis: University of Minnesota, Department of Vocational and Technical Education, Minnesota Research and Development for Vocational Education.

learning task requirements. For example, disabled learners might be fitted with prosthetic devices to help them complete learning tasks of a job successfully.

The final strategy of circumvention may be needed to better match learner capabilities with program requirements. This strategy consists of selecting another postsecondary program area other than the one containing major barriers to program completion. For example, a student who is physically impaired in a construction trades program and is experiencing difficulty with program tasks might change to an architectural drafting and design program, which has less constraints, and still remain in an area of interest. The three strategies of correction, compensation, and circumvention can be used in isolation, together or subsequently (Brown, 1985).

In all three models the foundation for successful transition is an appropriate, quality secondary or postsecondary program of vocational education supplemented with needed support services. At the secondary level, vocational education, special education, and other school-based services provide the foundation in skills, knowledge, attitudes, personal relationships, and employer contacts, which determine to a large extent how successful the transition will be for a special needs learner (Will, 1984). Many of the problems special needs learners face in postsecondary education can be resolved by adequate counseling and assessment, appropriate program selection, and learning experiences in an integrated instructional program that utilizes a functional curriculum approach. Of course, some special needs learners do have unique needs that require coordinated school and community support services to help them make the transition through secondary education to further postsecondary training and to sustained employment.

There are several other common elements to successful transition for special needs learners that are integral parts of these models. These are (a) early vocational assessment that provides a basis for establishing the IEP and IPP for special needs learners, (b) transition planning to determine and monitor employment-related instructional objectives and learning activities, (c) interagency collaboration and coordination to assure that appropriate service options are accessible, and (d) the active involvement of business and industry with vocational training programs to assure that relevant job skills, knowledge, and attitudes are taught and that a broad range of placement outcomes will be available (Owens, Arnold, and Coston, 1985). Other key transition elements include (a) parental involvement, (b) integrated school services, (c) community-based instructional experiences, (d) formalized planning for transition, (e) employment outcome options, (f) an inter- and intra-institutional focus, appropriate assignment of personnel duties, preinstructional orientation for special needs learners entering vocational programs, (g) effective identification and assessment of special needs learners, (h) adaptability of instructors and curricula to meet the unique needs of special needs learners, and (i) formal, revisable transition policies, practices, and plans (Wehman, 1984; Brown, 1985).

MAKING TRANSITION HAPPEN

Transition to work has been made a national priority for the eighties. It is a concept that has tremendous potential for improving the vocational preparation of special needs learners and for assisting them in obtaining and maintaining satisfying employment. Implementing the concept will require a deep commitment and a sustained effort on the part of all parties involved in the transition process. The roles and responsibilities of all individuals involved in transition will need to be established and appropriate training will be needed to enable team members to perform their functions effectively. Working linkages will have to be developed between parents, the school, and community agencies to ensure a continuum of nonduplicated services for special needs learners. Every effort will have to be made to identify the barriers to effective transition for each special needs learner and to find solutions that result in reducing or eliminating these barriers.

The vocational teacher is the key individual in making transition happen. Most vocational teachers have developed their curriculum in light of the employment needs of the state, region, or locality. However, there must be increased interest and effort in analyzing instructional content so it not only meets employment demands but also the development needs of each student. Questions such as the following must be asked by each vocational instructor. What skills, knowledge, and attitudes will learners need to obtain employment in the community? How will what I am teaching help learners function independently and effectively with their families and community? How will the instructional content I teach help learners develop the skills required for success in continuous learning situations? This type of reflection on the part of vocational teachers should result in identifying the basic academic and vocational skills, communication skills, social skills, employability skills, and life adjustment skills that form the foundation upon which subsequent learning experiences can be built (Repetto, 1985).

Once vocational teachers have formulated instructional objectives that prepare learners for successful participation in employment and in family and community life, attention must be given to selecting the instructional strategies, methods, and techniques that enhance transition. Many of the teaching methods and techniques presented in Module 9 can be used to help special needs learners accomplish the objectives specified in their individualized education programs. However, certain teaching strategies and techniques are particularly suited to enhancing transition. Examples of these techniques were adapted from those presented by Repetto (1985) and are as follows:

1. Incorporate workbooks and instructional materials dealing specifically with employability skills into the curriculum. A number of materials on employability skills, such as *Employability Skills for the Special Needs Learner* by Wircenski (1982), are commercially available. This resource presents content on socialization skills, communication skills, financial management skills, values clarification skills, and job procurement and retention skills.

2. Design instructional activities that help students develop and polish social skills that can be used in the family, community, and employment settings. For example, learners could be assigned a simulated role of sharing an apartment and jobs in the same firm in which they will need to cooperate to accomplish such tasks as getting to and from work, general housekeeping, preparing meals, washing clothing, managing a budget, and paying bills.

3. Design projects or adopt projects that enable learners to plan their work, use academic skills to solve problems, practice work habit skills such as following directions and seeking help when needed, use technical knowledge to perform manipulative skills and to apply self-evaluation skills to their work.

4. Develop assignments that require the class to

operate as a business and to design, produce, and market a product. This type of activity provides special needs learners with the opportunity to experience the various roles and responsibilities of managers, workers, and sales personnel. Several resources such as the *Action Company Guide* (1972) and Junior Achievement materials can be used to guide this activity.

5. Develop and maintain a transition and placement portfolio for each special needs learner. This portfolio should include a listing of the competencies required of workers in a career interest area and a rating scale that would allow learners to record their progress.

6. Develop an instructional unit containing information about school and community resources that could be used to help learners perpare for and obtain employment. Examples of activities that could be included in this unit are completing applications for support services and role-playing interviews with community support agency personnel.

7. Develop and implement activities that encourage parent participation in the educational program. For example, special needs learners might be asked to work with their parents on a home project such as a garden plot in a vocational agriculture program.

8. Encourage special needs learners to become actively involved in vocational youth organization activities. Participation in youth organizations help special needs learners establish social contacts, develop social communication and leadership skills, and practice occupational skills through competitive events. For example, home economic students can learn a great deal through participation in the Future Homemakers of America Degree of Achievement Program.

9. Develop training stations in the community where special needs learners can participate in cooperative work-study experiences or in work exploration and "work tryout" experiences. For example, an agreement could be formed with a local department store to allow special needs learners to experience work assignments on a "tryout" basis.

10. Make student assignments that require them to identify and tentatively make career choices through participation in computerized career information systems. For example, special needs learners can use the computerized Georgia Information System's occupational information library to answer questions about (a) high school job preparation courses, (b) wages, (c) number of jobs available in the future, (d) job duties, (e) working conditions, (f) skills and abilities needed for the job, and (g) training needed to enter the job.

11. Require that students search out jobs for which they have received training by utilizing a computerized job bank program, such as the Valpar International Val Search Job Bank Program. This program can be used to assist special needs learners in matching their vocational profiles against some 12,099 jobs listed in the Dictionary of Occupational Titles. Another job bank system that can be used to provide information for the assessment and training of displaced workers and for placement and guidance purposes is the Occupational Data Analysis System (ODAS), which is a new product of V-TECS.

12. Schedule field trips to selected employment settings where disabled workers are employed, such as in competitive employment with and without support, enclaves in industry, specialized industrial training stations, mobile work crews, sheltered workshops, and homebound workers. These field trips can provide role-model examples for special needs learners.

13. Incorporate information about postsecondary training opportunities and schedule visits to these institutions. Personal visits to postsecondary institutions where special needs learners are enrolled can serve as valuable role-model examples for interested learners.

In addition to this listing of strategies and techniques for improving transition, vocational teachers must also think creatively to provide transition activities for special needs learners.

The topic of transition is a relatively new concept. It has only received national attention over the past several years. It is a concept that must become a priority goal for vocational education at both the secondary and postsecondary levels. It is a concept that has been a vocational education goal for many years, and it stresses closer relationships and linkages with business, industry, and the community. It emphasizes job placement and sustained employment. Job placement and follow-up services are critical elements of transition and will be discussed in more detail in the balance of this module.

THE NEED FOR PLACEMENT AND FOLLOW-UP SERVICES

In addition to being one of the most difficult adjustments a person must make, the transition from school to work is also one of the most critical adjustments. How the transition is made can mean the difference between a lifetime of dependency and frustration or a satisfying and productive career. The transition to employment is even more difficult for special needs persons because of real or imagined employment barriers.

School placement and follow-up services that are integrated into the total vocational program can help smooth this transition for all students. Through these services, special needs students can receive appropriate vocational education, work adjustment skills, and assistance in finding a job and keeping it.

The formidable barriers that once kept special needs students from entering vocational education programs and employment are beginning to break down. Federal legislation has played an important part in this change process. For example, legislation has made it unlawful to discriminate against handicapped persons in employment. The Rehabilitation Act of 1973, as amended in 1974, made it possible for the handicapped to enroll in regular vocational programs and to receive the necessary support services to overcome barriers caused by disabilities. In addition, under Section 503 of the Act, any federal contractor doing $2,500 of business annually with the federal government must take affirmative steps to recruit, hire, and promote qualified handicapped persons. Affirmative action by employers includes removing any discriminatory practices in the hiring process.

Under the regulations of the Rehabilitation Act of 1973, employers must make reasonable accommodations for qualified handicapped persons. Examples of these accommodations include modifications to the worksite and the provision of necessary aids or devices enabling these persons to perform work tasks successfully.

The regulations of the Rehabilitation Act of 1973, as amended, essentially guarantee special needs persons the same rights and benefits as other job applicants and employees. The act, coupled with the targeted jobs and Work Incentive (WIN) credits program of the Revenue Act of 1978, has provided employers with added incentives to recruit and hire qualified handicapped persons. The targeted jobs credit program, by providing tax write-offs, is designed to provide an incentive for employers to hire vocational rehabilitation referrals, economically disadvantaged youth, and Vietnam-era veterans.

As a result of mainstreaming, an increasing number of special needs persons are entering vocational programs. They are declaring career objectives and working hard to become employable. At the same time, business and industry are beginning to recruit and hire more special needs persons. More than ever, job placement services are needed to match the capabilities and interests of special needs persons with the job requirements of employers.

However, job placement personnel must do more than simply choose capable students for existing jobs. They must work with employers in analyzing existing jobs to determine training requirements, assist employers in job redesign, and work with school personnel in implementing programs to help special needs students make the transition from school to work.

Placement and follow-up services can provide the vital link between vocational education programs and productive employment. Vocational teachers who have special needs students will be able to realize the goal of seeing their graduates succeed in jobs for which they are prepared. Similarly, business and industry will be provided with a source of potential employees that in the past has been virtually untapped.

Consider the alternatives to successful placement of special needs persons. Many of them who do not enter the labor market will be under protective custody of their families. If they are not employed, they will receive welfare. They may become institutionalized in hospitals or rehabilitation centers for life.

BARRIERS TO PLACEMENT

The employment outlook for special needs students continues to brighten. Major industries such as DuPont are hiring qualified special needs individuals and are telling other employers that they make capable, productive workers. The U.S. Employment Service, an agency in the Department of Labor, has made the placement of handicapped persons who appear at local offices a top priority. Many agencies, such as the Office of Personnel Management and labor unions, are also promoting equal employment opportunities for the handicapped.

Even with the encouraging employment outlook, special needs individuals face many barriers when seeking employment. There is still widespread prejudice against people who look and act different from the norm. There is still discrimination against handicapped people. Fear of the unknown causes an irrational fear of people who shake and who have epilepsy. Also, employers want to avoid a hiring mistake that may slow down production or raise their insurance rates, and they often perceive the hiring of handicapped people as a gamble. Handicapped persons, themselves, also have fears of competing for jobs with the nonhandicapped, whom they believe have the advantage.

Barriers to placement and employment can be classified into three major types: barriers among handicapped persons, their families, and advocates; barriers within the helping system; and barriers within society (Barriers and Bridges, 1977).

Barriers among Handicapped Persons

Handicapped persons often have low self-esteem and a negative impression of themselves and their abilities. This barrier presents problems for them in job interviews and in developing positive interpersonal relationships. Many of them who have tried to obtain employment have been rejected so frequently that they eventually begin to doubt their own abilities. This situation strengthens their already strong sense of hopeless dependency. Family and friends often contribute to the problem of low self-esteem by communicating low expectations, which further impairs their self-concept.

Other barriers to employment for handicapped individuals may include inadequate preparation for the job interview, poor grooming habits, and a lack of understanding of the resources available to them.

These barriers to placement and employment that exist among special needs persons can be reduced or eliminated by appropriate work adjustment training and the desire to become independent. As society's attitudes change toward accepting special needs persons as individuals capable of productive employment and independence, this population will develop a different picture of themselves as reflected by society's acceptance mirror. As this occurs, barriers among special needs persons caused by low self-esteem should begin to dissolve.

Barriers in the Helping System

There are many agencies and groups that compete for the right to serve special needs persons. These groups and agencies are sometimes labeled as the helping system. In practice, however, the helping system itself can generate barriers to placement and employment. The system is made up of many groups and agencies that have one purpose—to help special needs persons. The problem lies in the different procedures they follow in providing services to them. Often one group or agency is unaware of what others do or why they do it. Sometimes these agencies even contradict themselves. This situation subjects special needs persons to inconsistent expectations as they move from one agency to another.

Two major barriers are caused by the helping system. One of these is a lack of interagency communication and collaboration. The other barrier is the lack of enough trained personnel to make the helping system work effictively. The first barrier is being reduced substantially through cooperative planning in schools and the development of interagency linkages. For example, helping agency representatives are now frequently included in the IEP process for handicapped persons and the IPP process for disadvantaged learners. The problem of an insufficient number of trained personnel is also being lessened by preservice and inservice education programs designed to make helping system personnel more effective in serving special needs persons. For example, vocational teachers are receiving training in working with special needs learners, while special needs teachers are receiving training in the principles and practices of vocational education. Workshops are being conducted for all participants in the transition process in which roles and responsibilities of each individual and agency are established and activities and services are planned to meet the needs of special needs learners.

The job placement program can help overcome both barriers by promoting open communication and cooperation among helping agencies and by working with teachers and other school personnel to ensure that special needs learners are adequately prepared for employment.

Barriers within Society

Special needs persons applying for employment, like other job applicants, experience feelings of insecurity as they enter personnel offices for an interview. This feeling is generated by an awareness that they will be competing for jobs with other applicants and that they will be subjected to the employer's assessment. This uneasy feeling is magnified by the fear of rejection.

While many able job applicants experience these feelings generated by fear, special needs persons may suffer more because of employment barriers. For example, special needs persons applying for a job are concerned about architectural and physical accessibility, whether they will be able to pass a required physical examination, and how they will be able to present themselves in an interview because of their disability. In addition, they are aware that they must pass screening tests and complete application forms that usually require previous job experience. They are also fearful of traditional employer views toward hiring them.

Special needs persons encounter many employment barriers that result from employer ignorance about their capabilities. Frequently, employers focus on what special needs persons cannot do instead of what they can do. They may be so convinced that special needs students cannot become good employees that they may not give them a chance to prove otherwise. Such employer attitudes are an example of the many barriers that exist within our society toward this population.

Some of the common misconceptions employers hold that become employment barriers for special needs persons are as follows:

1. Insurance rates will skyrocket.
2. Considerable expense will be involved in making architectural modifications and modifications to the work environment for the handicapped person.

3. Safety records will be jeopardized.
4. Special priviledges will have to be granted.
5. Other employees will not accept special needs employees.
6. Production will suffer because of poor job performance and high absenteeism on the part of the special needs person.

Every one of these reasons that employers give for not hiring special needs persons have been proven to be groundless. Some of America's largest firms, such as DuPont, IBM, and Xerox, have hired special needs persons for years and have conducted studies that reveal their productivity to be comparable with that of nonhandicapped workers.

Societal barriers to employment of special needs persons have decreased somewhat since the passage of the Rehabilitation Act of 1973 and will continue to decrease as more employers hire special needs persons through their affirmative action programs. Job placement services will likely play an important part in helping to remove these barriers.

PLACEMENT OPTIONS

Typically, vocational school job placement services are viewed narrowly as those services provided to help program graduates locate and obtain full-time jobs. In actual practice, however, most vocational placement programs provide services leading to a number of different placement options for special needs students. Figure 12.4 presents seven different placement options.

Placement in Rehabilitation-sponsored Centers

Handicapped individuals can be placed in work activity centers, work adjustment centers, and transition centers (Jacobs, Larsen, and Smith, 1979). While the major purpose of these centers is to provide diagnostic vocational evaluation and training, they may become a type of terminal placement for the severely handicapped.

Work activity centers provide sequenced work activities and personal-social activities designed to help trainees improve their everyday living skills. The emphasis in these centers is not on productivity, but rather it is on providing remedial instruction for performing basic behaviors required for daily living activities.

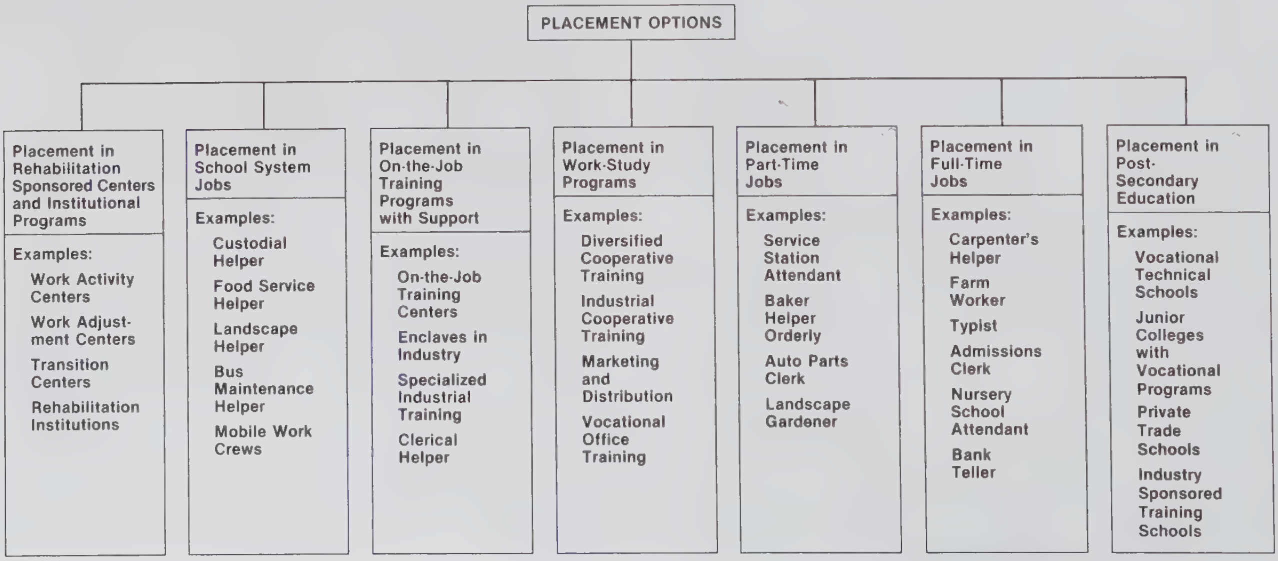
Work adjustment centers provide prevocational skill training as well as training in worker adjustment skills such as work attitudes, work habits, and personal-social habits. Like work activity centers, the emphasis is not on productivity, but rather it is on preparing the trainee to enter the competitive employment market.

Transition centers are different from the two previously discussed centers in that they emphasize

Figure 12.4

VOCATIONAL STUDENTS PLACEMENT OPTIONS

Placement Options: Special needs students who complete vocational programs may receive placement services for the following kinds of placement options.



Placement in Rehabilitation Sponsored Centers and Institutional Programs	Placement in School System Jobs	Placement in On-the-Job Training Programs with Support	Placement in Work-Study Programs	Placement in Part-Time Jobs	Placement in Full-Time Jobs	Placement in Post-Secondary Education
Examples:	Examples:	Examples:	Examples:	Examples:	Examples:	Examples:
Work Activity Centers Work Adjustment Centers Transition Centers Rehabilitation Institutions	Custodial Helper Food Service Helper Landscape Helper Bus Maintenance Helper Mobile Work Crews	On-the-Job Training Centers Enclaves in Industry Specialized Industrial Training Clerical Helper	Diversified Cooperative Training Industrial Cooperative Training Marketing and Distribution Vocational Office Training	Service Station Attendant Baker Helper Orderly Auto Parts Clerk Landscape Gardener	Carpenter's Helper Farm Worker Typist Admissions Clerk Nursery School Attendant Bank Teller	Vocational Technical Schools Junior Colleges with Vocational Programs Private Trade Schools Industry Sponsored Training Schools

productivity. These centers use "live work" experiences as the primary method of developing job skills that can help them compete in the job market. Transition centers usually contract with local business and industries to produce certain products or to provide specific services for which they receive pay. These centers attempt to provide an environment similar to the ones that may be found in industry. Trainees receive pay for their productivity and are introduced to certain standards of productivity. An example of a transition center is Goodwill Industries of America. Sometimes these centers are called sheltered workshops.

Trainees may also be placed into special rehabilitation facilities that are able to provide more specialized services than can be provided in centers. Each state has a number of rehabilitation centers, such as the Warm Springs Rehabilitation Center located in Warm Springs, Georgia. The purpose of these facilities is not to provide a lifetime home for their trainees, but rather to provide a wide variety of services, including vocational training, that can give them the best possible chance of being productive in a sheltered, semisheltered, or competitive employment environment.

Placement in On-the-job Training Program with Support

Special needs students may also be placed in on-the-job training (OJT) centers or sites that are actual work situations. The purpose of these OJT programs is to provide specific job preparation. While trainees work under direct supervision of a job supervisor, they are usually assisted in making the adjustment to OJT jobs by trained, ongoing job coordinators from the school or community agency. They may continue to receive support training back at their local schools after work hours. Vocational rehabilitation and Job Training Partnership Act (JTPA) funded agencies may support this type of placement by providing services or monetary incentives to employers who provide OJT experiences for special needs persons.

Several different types of OJT placement options are:

1. Placement in on-the-job training centers - Special needs learners who need assistance in getting a job, adjusting to the job, and holding a job are placed in business and industry OJT work centers through the support effort of an ongoing job coordinator. The special needs students work under the supervision of a business or industry job supervisor and are assisted as needed by an ongoing job coordinator to help them maintain their jobs.
2. Placement in enclaves in industry - Special needs learners can be placed with other disabled workers in small groups of six or fewer in a business or industry where they are supervised by a trained human service staff person. These workers receive a fair wage but usually do not receive fringe benefits. Enclave workers usually work together on a specific set of tasks rather than directly with other workers. Placement in enclaves may be temporary and provide a good opportunity to obtain work experience and skills required to eventually move into part-time or full-time employment (Wehman, 1984).
3. Placement in specialized industrial training - Special needs learners can be placed in small industrial-oriented workshops in the community where they perform tasks required to assemble or produce products or services. These workshops usually employ 20 or fewer workers, some of which are nonhandicapped workers. Each workshop requires a well-trained staff committed to helping special needs learners develop employment skills in a realistic setting (Wehman, 1984).
4. Placement in mobile work crews - Special needs learners can obtain employment as part of a crew of workers who provide services for businesses, industries, or government agencies under contracts or agreements. Mobile work crews are supervised by a well-trained, vocationally competent staff who provide needed transportation, tools, equipment, and materials required to perform work at a job site.

Placement in School System Jobs

Another placement option available for special needs students is employment in various jobs within the school system. Usually students are placed as helpers under the direct supervision of school staff and do not receive pay. The purpose of this placement option is to provide additional training through actual job experience.

Examples of occupational areas in which students could be placed within the school system are (a) custodial helper, (b) janitorial helper, (c) food service helper, (d) landscape helper, (e) bus maintenance mechanics helper, and (f) clerical helper.

Placement in Work-study Programs

Many vocational schools offer students a chance to obtain actual job experience while they continue their educational programs at school through cooperative vocational education or work-study programs. Special needs students can be trained initially in cooperative vocational programs or they can be placed in these programs during the latter part of their job preparation program. Students work under close supervision of a training supervisor on the job and are visited by the teacher-coordinator on a periodic basis. Students spend a part of their day at school completing course requirements and part of the day working on the job for which they receive pay. Programs using the cooperative method include diversified cooperative training, industrial cooperative training, marketing and distributive education, and vocational office training.

Placement in Part-time Jobs

Special needs students can be placed in part-time jobs until they become more prepared for full-time employment or until full-time employment can be obtained. In some cases they need to begin employment on a part-time basis until they build up their stamina for full-time employment. In addition, it is often easier to make adjustments to the work environment during part-time work. Trainees employed part-time also have the advantage of being able to return to the school or to some other agency for remedial and support services if necessary.

Placement in Full-time Jobs

The most desired type of placement is full-time competitive employment that is in line with the special needs person's interests and capabilities. Special needs persons who have completed vocational programs need employment that provides them with job satisfaction, an opportunity to earn a living wage, and an opportunity to advance in their chosen occupations. For some full-time employed persons, additional training will be needed so they may continue to make progress in their jobs.

Placement in Postsecondary Education

Jobs continue to become more complex each year and prospective job seekers will need to obtain higher levels of education and training to secure employment. Special needs students can be placed in a variety of postsecondary education institutions ranging from vocational-technical schools to colleges and universities. Often they can obtain financial support and other support services to help them prepare for higher employment levels. Most schools have been emphasizing this type of placement option for a long time and are very successful in helping graduates choose and enter higher education institutions.

PLACEMENT: A TEAM EFFORT

Placement and follow-up services begin the day students enter a vocational program and conclude only after a student is successfully employed. The placement and follow-up process must be a team effort composed of the entire school staff, supplemented with outside assistance from agencies and organizations such as employment services, vocational rehabilitation agencies, local vocational advisory committees, and other advocacy groups. An essential part of this team effort is the special needs individual who is trying to obtain education and support services necessary to enter employment in a specific occupational area.

Like a football team, the placement team must have an organizational structure with a few leaders and a number of players working together cooperatively. There must be a game plan. For handicapped students this plan is the IEP and for disadvantaged learners, the IPP. The team must huddle together occasionally to change the game plan or call new plays. And for the team to be successful they must have support from everybody involved in the game. Special needs persons obtaining productive employment will need the support of the placement team to push them across the goal line.

The following is information about team members and their responsibilities.

1. *Vocational Administrators.* The success or failure of the placement and follow-up process depends greatly upon the efforts and cooperation of the vocational school administrators. In addition to supporting the placement and follow-up process by supplying staff, suppliers, and an operation budget, administrators should:

   a. Keep all teachers and school staff informed and involved concerning the purpose, goals, and activities of the program.
   b. Assist in establishing a placement and follow-up advisory committee and ensure that placement is addressed by the various craft committees.
   c. Provide release time for school staff who engage in placement program public relations (PR) activities and become involved in PR activities when appropriate.
   d. Initiate and maintain contact with employers who have special needs students.
   e. Promote support for the placement/follow-up program with other school administrators, community leaders, and special needs advocacy groups.
   f. Work with the State Department of Education, vocational rehabilitation, and other state and federal agencies in administering the program.
   g. Inform all school staff of their responsibilities and duties in the placement/follow-up process.

h. Use placement and follow-up data to make appropriate changes in the school's total program.

2. *Student Personnel Specialists and Counselors.* It is essential that guidance counselors and other student personnel specialists work closely with other placement team members in providing services for special needs persons who are preparing for placement. Counselors and school personnel specialists should:

a. Obtain current information about the local job market and the types of jobs that vocational students may enter after training.
b. Provide current, factual job placement information to T&I teachers and to T&I students so they can examine job possibilities.
c. Provide information to special needs students regarding the assistance they can receive from the school and community agencies to help them prepare for and obtain jobs.
d. Assist special needs students in making decisions about job alternatives related to their interests, values, and capabilities.
e. Counsel students regarding their work adjustment development in such areas as work attitudes, work habits, grooming and dress, and job performance.
f. Assist vocational teachers in making any modifications to their laboratory environment by serving on the assessment team.
g. Assist the job placement staff in preparing job placement profiles.

3. *Work Sample/Evaluation Center Personnel.* Some vocational schools employ specially trained staff to operate a work sample/evaluation center designed to help prospective vocational students and regular students identify their areas of interest and their capabilities. (Module 4 presents a more detailed discussion of work sample/evaluation services.) As members of the placement team, work sample/evaluation staff should:

a. Assist counselors and student personnel specialist in determining the interests and capabilities of special needs students.
b. Provide the job placement staff with information about new employer contacts and leads about possible job openings.
c. Assist vocational teachers, special needs teachers, and cooperative education coordinators in providing work adjustment training.
d. Assist vocational teachers in identifying work environment barriers as members of the barrier assessment team.

4. *Vocational Teachers.* Vocational teachers must be actively involved in the job placement and follow-up process for special needs learners. These teachers, along with special needs personnel, interact daily with special needs students and usually know their interests, capabilities, and limitations. Vocational teachers maintain continuous contact with employers and are often informed when job openings are available. They are familiar with job requirements in their technical area and can determine if special needs student capabilities are compatible.

Vocational teachers are in the placement business daily as they prepare their students for employment. Through cooperative planning and joint effort with other placement team members, vocational teachers can help special needs students complete their desired program and improve their chances for successful job placement. Vocational teachers should perform the following placement and follow-up duties:

a. Develop and maintain a good working relationship with all members of the placement/follow-up team.
b. Assist the placement and follow-up staff in identifying potential employers.
c. Assist the placement and follow-up specialist in analyzing identified jobs and developing job profiles.
d. Maintain continuous contact with local employers and provide meaningful feedback to the placement team.
e. Provide an orientation for all students, stressing job placement as the ultimate goal of the instructional program and of the placement services that are available to help them prepare for and obtain employment.
f. Maintain an active craft advisory committee and involve them in the placement and follow-up program.
g. Provide worker-adjustment skills as well as technical skills in instructional programs.
h. Maintain a laboratory environment similar to that in industry.
i. Encourage all students to visit employers and observe what workers do in their daily work activities.
j. Arrange field trips to various industries and businesses to provide students with firsthand information about jobs and job opportunities.
k. Refer special needs students to other school staff for special guidance and instruction.
l. Participate in vocational and professional organizations to keep abreast of the changing nature of work in your teaching area.

m. Refer students to the placement and follow-up staff for assistance in part-time and full-time placement.

n. Work with special needs teachers, students, and parents in developing the IEP for handicapped students and IPP for disadvantaged learners.

5. *Cooperative-Education/Work-Study Coordinators.* Cooperative vocational education coordinators can make important contributions to their job placement and follow-up program. Coordinators spend about one-half of their day working with employers and student-employees at the place of employment. They are able to provide valuable information regarding employer contacts, job leads, and information about the nature of jobs in the community. In addition, these coordinators are experienced job placement specialists, for they are continually trying to develop jobs for their students and match their students with available jobs. Trade and industrial cooperative education coordinators should:

a. Assist special needs persons enrolled in their programs in finding work-study placement.

b. Provide information to job placement staff regarding employer contacts, job leads, and specific information about the nature of jobs in the community.

c. Assist job placement staff in analyzing jobs and preparing job profiles.

d. Assist job placement staff in promoting public relations for the placement programs.

6. *Special Needs Personnel.* Special needs teachers and specialists also play a key role in the job placement and follow-up effort of a vocational program. They provide instruction and support services for special needs students. They also work closely with vocational teachers to provide remedial instruction in a given technical area. For example, special needs persons may need additional help in performing mathematical computations or in understanding trade terms. Special needs teachers can provide appropriate remedial instruction to help these students make progress in their vocational program. Special needs personnel should perform the following placement duties:

a. Work with handicapped and disadvantaged students, their parents, and vocational teachers in planning the IEP and IPP, respectively.

b. Assist vocational teachers and other placement team members in understanding the nature and needs of special needs learners.

c. Assist vocational teachers in providing appropriate instruction.

d. Provide work adjustment skill training to special needs students.

e. Assist vocational teachers in assessing the laboratory work environment for a specific handicapped student and in making suggestions for appropriate modifications.

f. Assist vocational teachers in obtaining appropriate aids and devices to eliminate identified barriers.

7. *Job Placement and Follow-up Staff.* Placement and follow-up specialists also have specific duties to perform as placement team members, but their chief responsibility is to coordinate the entire placement and follow-up effort and to gain the assistance of all involved. These professionals "hit the streets" and talk placement wherever they go. They serve as the liaison between the school and the community and are directly involved with employers in matching the vocational competencies of special needs students with the personnel qualification needs of employers. Job placement and follow-up staff should:

a. Develop and maintain a team-oriented job placement and follow-up program.

b. Prepare for and conduct a continuous public relations program to promote the placement effort.

c. Develop and maintain current information on employers, employer contacts, and placements.

d. Visit potential employers to initiate and promote student placement.

e. Work with employers in developing job profiles and, if possible, in redesigning jobs for special needs students.

f. Establish and maintain a placement and follow-up advisory committee.

g. Work with out-of-school agencies that provide special services such as vocational rehabilitation and employment security to enhance the job placement and follow-up effort.

h. Obtain data on special needs students and work with other placement team members in preparing student job placement profiles.

i. Provide vocational teachers and other placement team members with information related to the placement and follow-up of program completers.

j. Coordinate preplacement training for those students who have been referred.

k. Provide placement and referral services to special needs students who are deemed ready for placement.

l. Follow up former special needs students who have been placed, to smooth the transition between school and employment.

  m. Maintain records of all activities of the placement and follow-up program.

8. *Special Needs Students.* Special needs students are the very heart of the placement and follow-up process. Every activity is directly or indirectly related to student placement upon program completion. Since job placement is unique for each individual, each student must be involved as a team member. Successful placement is not simply putting special needs students to work; it is placing students in employment according to their capabilities and interests. Placement is successful only when individuals stay employed and not merely during the follow-up period. Special needs students can:

  a. Participate in the development of the IEP for handicapped students and IPP for disadvantaged students.
  b. Become as informed as possible about entrance requirements and job requirements in the chosen area of interest.
  c. Visit employers and observe firsthand what workers do.
  d. Take advantage of all the services offered by the helping system to prepare for and enter employment.
  e. Learn self-directed job search skills.

9. *Advisory Committees.* Placement and follow-up advisory committees and vocational craft advisory committees can provide service to the placement and follow-up effort. Advisory committee members should:

  a. Provide information about job leads and employer contacts.
  b. Identify employers who have previously hired handicapped individuals.
  c. Promote job placement among colleagues, employers, and business associates.
  d. Assist in helping to remove attitudinal and physical barriers confronting special needs job applicants.

10. *Rehabilitation Agencies and Special Needs Advocacy Groups.* A number of agencies, foundations, institutes, and special groups exist to provide services for the placement effort. Examples of these include vocational rehabilitation offices, the American Foundation for the Blind, the National Association for Retarded Citizens, and the President's Committee on Employment of the Handicapped. These agencies should be contacted to determine what services they can provide. They can often perform the following duties:

  a. Provide suggestions for helping special needs students make the transition from school to work.
  b. Provide direct job placement services when appropriate.
  c. Provide specific helping services in line with the special needs person's program.
  d. Assist in overcoming barriers to the employment of special needs persons.

THE PLACEMENT PROCESS

Job placement processes in secondary schools are usually either loosely organized job placement services or a listing of job openings, commonly called job banks, from which interested students can obtain job leads. In the case of school placement services, job openings are located and students are selected and sent on job interviews. In the case of job banks, students take job leads and spend four hours or less per week looking for employment. Both of these processes sometimes yield results, but all too often students go from job lead to job interview with inadequate job-seeking skills and without results. Michael Farr (1983) proposed a third alternative to placement—teaching people how to find their own jobs.

Job placement for special needs learners should be viewed as a critical element of the transition process that prepares learners to find their own jobs with appropriate support services. The job placement process involves a number of components and elements that must be coordinated and delivered by trained placement team members.

The existence of a placement and follow-up program at a local school depends upon personnel being available to serve as team members. Large vocational schools may have all of the types of team members described in the previous section of this module, and more. Smaller vocational schools and vocational programs in comprehensive high schools may be able to involve only vocational teachers, special needs personnel, work-study coordinators, and guidance counselors in the placement effort. In any case, the local program of job placement and follow-up will have to be organized around the staff available to serve as team members.

Regardless of the organization of the placement and follow-up program at the local school level, a number of functions must be performed by the placement and follow-up team. These functions include (a) building a market for job placement, (b) conducting the preplacement program, (c) placing students in jobs, and (d) performing follow-up activities.

Building a Market for Job Placements

Perhaps the first step in job placement is to assess the local employment situation and to identify jobs for which special needs students can be prepared and placed. This can be done by conducting a job information search from a variety of sources, including the local Employment Security Office, the Chamber of Commerce, Area Planning and Development Commissions, sheltered workshops and rehabilitation centers, the Governor's Committee on the Employment of the Handicapped, yellow pages of the phone directory, newspaper classified ads, vocational rehabilitation offices, labor unions, service clubs, civic groups, vocational advisory committees, local management and employer organizations, city directories, census data, computerized job information banks, parents or relatives of special needs learners, advocacy groups, companies with government contracts, employers who have previously hired special needs students, and vocational teachers at secondary and postsecondary institutions.

The results of the job information search can be used to compile a listing of potential employers. A recommended way to organize information obtained in the job search is to place it on file cards or on microcomputer diskettes. Such information will include the name, address, and telephone number of the employer; the person to contact; the type of job; the job requirements; the hiring requirements and procedures; the contract requirements (hours of work and wages paid, and referral instructions) and whom to see and when to apply. Figure 12.5 shows a typical job information card. Job information cards and diskettes can be placed into a master file and used for job placement as a source of mail-outs and follow-up. The master job file must be periodically reviewed and updated.

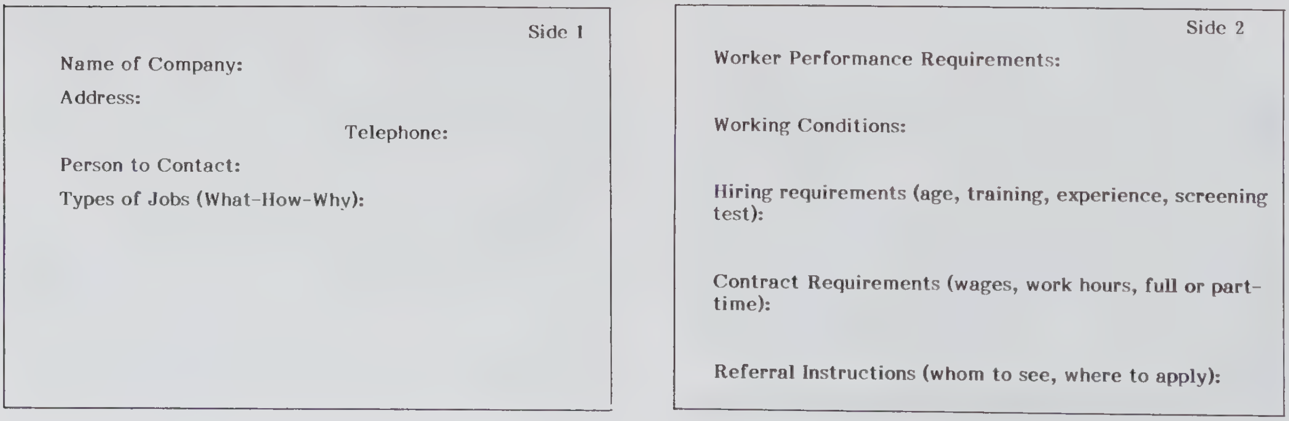
Once the job search has been completed, the next step is to conduct a selected employer survey to determine more detailed information about jobs in which special needs students may be placed. The employer survey should be designed to obtain detailed information about the type of jobs, the availablility of on-the-job training, the job turnover rate, and other information needed to prepare job profiles and an overview of job tasks and requirements. Figures 12.6a, 12.6b, and 12.6c are forms for collecting information from potential employment sources that were adapted from *Project FIT Implementation Handbook: A Guide for the Establishment of a Vocational Training System* (1977). It is usually necessary to follow up the employer survey with a prearranged visit to the company. There is no better way to facilitate job development than to meet the potential employer and to observe firsthand the actual work environment.

In preparation for visits to companies, the placement staff should learn as much as possible about the company and the products or services it provides. Conversation should focus on the possibility of hiring qualified special needs students when job vacancies occur. Positive factors such as the preplacement training and screening that students receive before they are referred for placement should be emphasized.

Employers should be informed that a major goal of the placement program is to help them find qualified job applicants to meet their personal needs. During the visit or a subsequent visit, placement team members can gather information about jobs that may be appropriate for special needs persons. This infor-

Figure 12.5

TYPICAL JOB INFORMATION CARD



Side 1

Name of Company:

Address:

Telephone:

Person to Contact:

Types of Jobs (What-How-Why):

Side 2

Worker Performance Requirements:

Working Conditions:

Hiring requirements (age, training, experience, screening test):

Contract Requirements (wages, work hours, full or part-time):

Referral Instructions (whom to see, where to apply):

Figure 12.6a

SCREENING INVENTORY FOR POTENTIAL EMPLOYMENT SOURCE

1. Name of Business ____
2. Contact Person ______________ Position __________ Date ______________
3. Type of Work:

   Mfg. ________ Clerical ________ Service ________ Food Service ______

   Mech. Repair ______ Agricultural ______ Wholesale ____ Retail ________

   Other (describe) ____________________
4. Types of Work (Skill Levels):

   Entry Level with Skills ____________ Entry Level without Skills __________

   Semi-Skilled ____________________ Skilled ____________________
5. Types of Employment:

   Part-Time ____________ Full-Time ____________ Seasonal ____________
6. Number of Employees:

   Less than 10 _____ 11-25 _____ 26-50 _____ 51-100 _____ Over ________
7. Number of New Employees:

   0-5 (month, year) _____ 6-10 (month, year) _____ Other (month, year) ________

   Anticipation of employee increase ________________
8. Turnover Rate:

   0-5% (month, year) ______________ 6-10% (month, year) ______________
9. List and Describe Potential Jobs Contained Within This Place of Business:

Job	Job Description
(1)	
(2)	
(3)	
(4)	

10. Comments (General First Impressions):

    (1) Place of business: ______________________________________

    ____

    ____

    ____

    ____

    (2) Individual jobs: ____

    ____

    ____

    ____

    ____

Adapted from: Adams, Elaine. (1977). *Project FIT Implementation Handbook: A Guide for the Establishment of a Vocational Training System.* Austin, Texas: Texas Rehabilitation Commission.

Figure 12.6b

EMPLOYMENT EVALUATION QUESTIONNAIRE

11. Environmental/Building Conditions:

(1) Location of Job:

Inside_____ Outside_____ Open Area_____ Confined Area__________

(2) Temperature:

Extremes of Cold_______________ Extremes of Heat__________________

Excessive Temperature Changes_________________

(3) Other Conditions:

Wet and Humid_____ Fumes_____ Odors_____ Dust_____ Noise_____

Vibration_____ Toxic Conditions_____

(4) Structure of Building:

Single Story_____ Multiple Story_____ Stairs_____ Elevator__________

Ramps_____

(5) Adaptations for Handicapped:

Restrooms_____ Drinking Fountains_____ Telephone_____

Entrance/Exit_____ Passageways_____ Refreshment Dispensers________

Parking_____

(6) Parking:

Free of Charge______________ Assigned Spaces___________________

12. Socialization:

(1) Worker Production:

Dependent on Others___________ Independent of Others_______________

(2) Work Setting:

Close Proximity with Others_______ Isolated from Others_______________

(3) Conduct Rules: ____

____

(4) Breaks from Work:

A. Rest_____ When_____ How Informed_____ How Long_____

Facilities_____

B. Lunch_____ When_____ How Informed_____ Facilities_____

Refreshments Available_____

13. Vocational Preparation:

(1) Necessary Entry Level Skills: ______________________________________

____

____

____

(2) Special Licenses:

Driver's_____ Vocational_____ Other_____

Adapted from: Adams, Elaine. (1977). Project FIT Implementation Handbook: A Guide for the Establishment of a Vocational Training System. Austin, Texas: Texas Rehabilitation Commission.

Figure 12.6c

EMPLOYMENT EVALUATION QUESTIONNAIRE

14. Basic Skills (Reading, Math, Writing)
    (1) Reading:
        A. Amount of Reading: Total Degree_____ Somewhat_____ Seldom______
        B. Form: Sentence_____ Outline_____ Lists_____ Words_____ Numerals_____
        C. Presentation: Schedules_____ Invoices_____ Handbooks_____
    (2) Math:
        A. Amount of Math: Total Degree_____ Somewhat_____ Seldom______
        B. Computation: Addition_____ Subtraction_____ Multiplication______ Division_____
        C. Presentation: Time_____ Measurement_____ Money________
        D. Skill: Sequencing_____ Counting_____ Copying_____ Matching______
    (3) Writing:
        A. Amount of Writing: Total Degree_____ Somewhat_____ Seldom_______
        B. Form: Manuscript_____ Cursive_____ Numerals_____
        C. Skill: Copying_____ Matching_____ Spelling_____ Self-phrased_____
        D. Presentation: Forms_____ Invoices_____ Lists_____ Timecard/Sheet_____
15. Basic Communication Skills
    (1) Telephone:
        Answer_____ Take Messages_____ Call_____ Work Intercom_____
        Switchboard_____ Use of Telephone Book_____
    (2) Contact with Others:
        Customers_____ Other Employees_____ Public_____
    (3) Required Communication on Job:
        Supervisor(s)_____ Other Employees Below Supervisor_____ Others_____
    (4) Communication Concerning Suggestions/Grievances/Personal Problems:
        Supervisor_____ Personnel Manager_____ Committee_____ Other_____
    (5) Reporting an Absence:
        A. Supervisor_____ Personnel Manager_____
        B. Time Requirement_____ Phone Call_____ Written_____ Doctor's Excuse_____

Adapted from: Adams, Elaine. (1977). Project FIT Implementation Handbook: A Guide for the Establishment of a Vocational Training System. Austin, Texas: Texas Rehabilitation Commission.

mation, combined with the information obtained in the employer survey, can be used to prepare job profiles.

Job Profiles

In order to match the capabilities of special needs persons with appropriate jobs, as much detailed information as possible must be obtained about each job. This information should be organized into job profiles, which contain the following types of information: (a) job title and number from the Dictionary of Occupational Titles (DOT), (b) general job description, (c) listing of job tasks, (d) listing of specific job requirements, and (e) listing of related jobs. Figure 12.7 shows a sample of a job profile for a bindery worker.

The profile should be headed by the title of the job and accompanied by the DOT number. In some cases it will be difficult to find the actual DOT number for a given job title, and the placement specialists will have to choose the most relevant one listed.

The general job description should contain a brief summary of major job duties. The task listing should contain essential job activities expressed as commands

Figure 12.7

JOB PROFILE FOR A BOOK BINDERY WORKER

Book Binder: (DOT 977.781)

General Duties: Book bindery workers operate automatic and manual machines and equipment to fold, sew, staple, drill and bind many printed itmes such as books and magazines.

Job Tasks:

1. Measure copy and graphics
2. File art work and maintain records
3. Lubricate and clean bindery equipment
4. Set up and operate cutting and trimming machines
5. Set up and operate folding machines
6. Set up and operate stitching machines
7. Set up and operate paper drill machines
8. Set up and operate jogging machines
9. Set up and operate collating machines and equipment
10. Set up and operate stapling machines
11. Set up and operate bindery machines and equipment
12. Bind printed materials with various plastic fasteners such as rings and strips
13. Bind printed materials with glue and presses
14. Place paper jackets on finished books
15. Wrap and package finished products
16. Store delivered supplies and materials
17. Maintain a clean and organized work area

Specific Job Requirements:

1. Safely operate machines and equipment
2. Lift, carry and move heavy loads by hand or by hand truck or dolly
3. Knowledge of bindery process
4. Knowledge of the various materials and supplies used in bindery
5. Ability to work in a noisy environment

Related Jobs:

Book Repairer (DOT 997.684-610)
Hand Sticker, Printing and Publishing (DOT 977.684-022)
Hand Collator, Printing and Publishing (DOT 977.687-010)

to perform work. For example, one task performed daily by a book binder is to stack and jog paper. Tasks are those independent work activities that an employee gets paid to do.

The job requirement section of the profile should contain a listing of specific knowledge and abilities that a worker should have in order to function effectively on the job. The listed abilities should not be limited to manipulative performance behaviors but should also include the communication and personal-social skills that are essential for the job.

A listing of related jobs should be included in the profile so that the placement team can identify other possible job opportunities for future placement. It is also necessary to obtain this information so that the job applicant can be adequately prepared for the actual work environment. This preparation usually requires a team effort.

Other Ways to Locate Jobs

In addition to locating jobs through employer surveys, followed by personal visits, the placement team should actively seek the services of out-of-school agencies. The local office of the Employment Service, an agency of the Department of Labor, should be contacted. This agency has given priority to the placement of special needs persons. It can often provide job leads as well as special guidance and assistance to special needs persons.

The job bank system in each state should also be used to identify local job opportunities. This is a system for locating jobs through the use of a scanner and microfilmed listing of available jobs throughout the state. Special needs individuals can scan these listings until they find a potential job for which they qualify. They then can be sent to the local Labor Department Office and through them be referred to the job.

Another excellent source for obtaining information about job opportunities is the civil service agencies that are available within most school communities. Contact should be made with these agencies to determine current job listings as well as testing procedures to help prepare students for the various civil service examinations.

In order to help special needs students find jobs, placement team members must use their contacts in the community to obtain job orders or information about available jobs. For example, teachers should maintain close contact with the employers in their specific field and frequently contact them to keep informed of job openings. This information should be forwarded to the placement staff for further action.

It has been estimated that up to 75% of the job openings are filled by word of mouth, networking and direct contact (Kimeldorf and Tornow, 1984). Many jobs are not formally advertised or listed. These jobs have been labeled as the hidden job market. It is essential that the placement team penetrates this hidden job market to enhance employment opportunities for special needs learners. Special needs learners and placement team members can receive valuable job leads from parents, relatives, and friends.

One technique for identifying jobs in the hidden job market is through ''job clubs.'' Placement team members in a school can sponsor and form job clubs, which can meet during or after school. Job club members are taught how to uncover the hidden job listings through use of the telephone, direct contact with employment sources, and networking strategies. Job club participants are taught how to open and close job bids, how to respond to tough questions, appropriate reactions to objections or reservations from the interviewer, and how to meet employers' expectations. Job clubs provide training sessions to assist members in developing job-seeking skills within the confines of a peer support group. Azrin and Besalele (1980) report that participants in job clubs average a 70% to 80% placement rate in six weeks or less, including many individuals who are considered unemployable.

Additional information about specific job development activities is discussed on page 417 under the heading, Placing Special Needs Persons in Jobs.

The Preplacement Program

The preplacement program begins the day that special needs students enter the school. As a result of the vocational assessment process discussed in Module 4, students are placed into a specific vocational program according to their interests and capabilities. Through cooperative planning and joint effort, the vocational teacher, the special needs teacher, and other school and community professionals can assist the special needs student in identifying and preparing for an appropriate occupational goal.

There are two additional parts of the preplacement program that deserve more attention. These are the work-adjustment training program and the preparation of job placement profiles.

Work-adjustment Training. Frequently, special needs students fail to obtain placement or lose their jobs shortly after placement because of poorly developed work habits or other work-adjustment attitudes and behaviors. Although most vocational teachers and special needs teachers give students some instruction in work-adjustment skills in their programs, many special needs students need additional instruction in work-adjustment behaviors prior to placement.

The work-adjustment training program for special needs students is usually conducted by the special needs teacher with input from vocational teachers, job placement staff, and other members of the placement team to make it as relevant to the employment environment as possible. The program may be offered to a group of special needs students who are ready for placement at the same time or provided on an individualized basis.

Some of the topics that should be included in the work adjustment training program are:

1. Finding jobs;
2. Preparing resumes;
3. Presenting yourself in an interview;
4. Preparing for entrance exams, health exams, and special screening tests;
5. Developing good work habits;
6. Developing positive attitudes toward work;
7. Solving transportation problems;
8. Interacting successfully with others;
9. Promoting yourself on the job;
10. Building self-esteem;
11. Adjusting to supervision styles.

An example unit in the work-adjustment training program presented here is the development of good work habits since this topic is one of the most often cited reasons why special needs individuals lose their jobs. This topic needs to be taught and constantly evaluated by both the vocational teacher and the special education teacher. Work habits essential for job success were presented by Hastings, Hill, and Kindinger (1983) and include the following:

- follows rules regarding on-the-job behavior
- assumes responsibility for actions while on the job
- cooperates with coworkers
- completes series of tasks without need for supervision
- reports to work on time
- displays an emotionally stable temperament
- maintains an acceptable level of work tolerance during routine work
- demonstrates dependability
- expresses needs with ease and clarity
- takes precautions in potentially dangerous work situations
- uses materials wisely to avoid waste
- demonstrates respect for authority
- practices good attendance
- keeps materials and tools well organized
- demonstrates effort and enthusiasm on the job
- cooperates in group situations
- works independently without need for constant supervision
- keeps a neat work area and personal appearance
- takes initiative to keep busy
- avoids extreme shyness/aggressiveness in social situations
- demonstrates profit from criticism
- carries out tasks as instructed
- performs work at a constant pace
- can do different activities simultaneously.

Many excellent materials are available in the areas of work-adjustment training, such as *Employability Skills for the Special Needs Learners* (1982), that can be used by both the vocational and special education teacher to deliver this important area of instruction.

Preparing Placement Profiles. Another important part of the preplacement program is the collection of descriptive and evaluative information on each special needs student and the organization of this information into a job placement profile. Job placement profiles showing the interests and capabilities of each student can then be matched with the job profiles described earlier in this module and used to make placement decisions.

At least two types of job placement profiles are currently being used by job placement specialists. The first is a simple placement profile containing the following types of information: (a) a listing of tasks that students have mastered, (b) a listing of demonstrated basic skills and abilities, and (c) a rating of personal-social behaviors exhibited (Figure 12.8).

The second type of placement profile is much more comprehensive and resembles an updated version of the special needs student profile discussed in Module 4, involving vocational assessment. The comprehensive placement profile contains information in the following areas: (a) educational academic/psychological, (b) physical/medical, (c) social/interpersonal relations, and (d) prevocational/vocational (Figure 12.9).

Regardless of the type of placement option selected, the placement staff will need to collect student background information and evaluative information from vocational teachers, special needs teachers, and other appropriate placement team members. This information should be compiled into a placement profile that presents an accurate picture of the student's interests and proficiencies.

While the primary purpose of the job placement pro-

Figure 12.8

SAMPLE PLACEMENT PROFILE

PROGRAM: Graphic Arts **STUDENT:** Jack Scott

JOB AREA: Book Bindery

MASTERED TASKS:

1. Measure copy and graphics
2. Maintain bindery machines, equipment and work areas
3. Operate cutting and trimming machines
4. Operate folding machines
5. Operate paper drills
6. Operate stitching machines
7. Operate collating machines
8. Operate jogging machines
9. Operate stapling machines
10. Operate bindery machines and equipment
11. Bind printed materials with plastic fasteners
12. Bind books
13. Wrap and package finished products

BASIC SKILLS AND ABILITIES :

1. Knowledge of bindery processes
2. Ability to operate machinery and equipment safely
3. Knowledge of materials and supplies used in bindery
4. Ability to lift, carry and move materials and products
5. Ability to work with or without supervision
6. Desire and ability to learn and improve job skills

PERSONAL/SOCIAL BEHAVIORS:	**RATINGS**		
	Excellent	Good	Fair
Attitude Toward Work	X		
Work Habits		X	
Interpersonal Skills	X		
Self-Esteem		X	
Motivation	X		
Character	X		
Personality		X	

Figure 12.9

SAMPLE COMPREHENSIVE PLACEMENT PROFILE

PROGRAM: Construction Trades

STUDENT: Harvey Miller

JOB AREA: Carpentry Helper

MASTERED COMPETENCIES:

1. Gather and transport tools and materials from company storage to the work site
2. Load, unload and stack lumber and building materials
3. Measure lumber and other building materials
4. Select appropriate tools and materials for a given work task
5. Maintain tools and machines (clean and lubricate)
6. Operate radial arm saw
7. Operate portable sabre saw
8. Operate portable power saw
9. Operate portable electric drill
10. Cut materials with hand saw
11. Nail materials
12. Assist in building forms and scaffolding
13. Assist with simple carpentry tasks

SPECIFIC SKILLS AND ABILITIES:

1. Knowledge of tools, machines and supplies used in carpentry
2. Knowledge of basic carpentry tasks and processes
3. Ability to lift, carry and move heavy objects
4. Ability to follow directions and work under supervision
5. Ability to drive a pickup truck or other work vehicle
6. Ability to take and make measurements
7. Ability to operate basic hand and power tools used in carpentry
8. Ability to climb ladders and work above ground level on scaffolds, building structures or roofs
9. Ability to read and communicate the written word

PERSONAL/SOCIAL BEHAVIORS:

		RATING		
		Excellent	Good	Fair
1.	Attitude toward work	X		
2.	Work habits (punctual, initiative, etc.)	X		
3.	Character		X	
4.	Self-esteem		X	
5.	Personality		X	
6.	Honesty and loyalty	X		
7.	Motivation		X	
8.	Self-control		X	
9.	Assumes responsibility	X		
10.	Ability to adjust		X	
11.	Personal hygiene and grooming			X

PREVOCATIONAL/VOCATIONAL:

1. Completed two years building trades program (see competencies and abilities)
2. Worked for his uncle as a carpentry assistant three summers while in high school
3. Interested in a career as a carpenter
4. Likes to build things out of wood as a hobby
5. Work habits are consistent with those required in carpentry

PHYSICAL/MEDICAL FACTORS:

1. Good general health
2. Good strength and stamina
3. Good eye-hand coordination
4. Good manual and finger dexterity on right hand only
5. Good hearing and vision ability
6. Individual is fitted with mechanical hand*

*individual has become very proficient with artificial hand

EDUCATIONAL/PSYCHOLOGICAL:

1. Reads at 9th grade level
2. Has good mathematic ability
3. Average learner (C average)
4. Possesses good listening and communication skills
5. Above average school attendance
6. Interest is in working out-of-doors and with mechanical devices
7. Well-adjusted psychologically
8. Has good mechanical aptitude

file is to provide a basic source of information for the job placement staff to use in matching special needs students to job profiles, it has several other uses. It can be used to determine whether or not special needs students are ready for placement or if they should be given additional training in an identified area of weakness. Job placement profiles are also useful in the follow-up to determine areas that may cause problems. Measures can then be taken to prevent these problems from surfacing.

Placing Special Needs Persons in Jobs

Two major approaches can be used to place special needs persons. The first and most common approach is to find a job, then select the best qualified candidates to apply for it. The second approach is to find a job that is suitable for a given special needs student (Jacobs, Larsen, and Smith, 1979). Both approaches make use of placement profiles and job profiles in the matching process, but placement procedures are different for the two approaches.

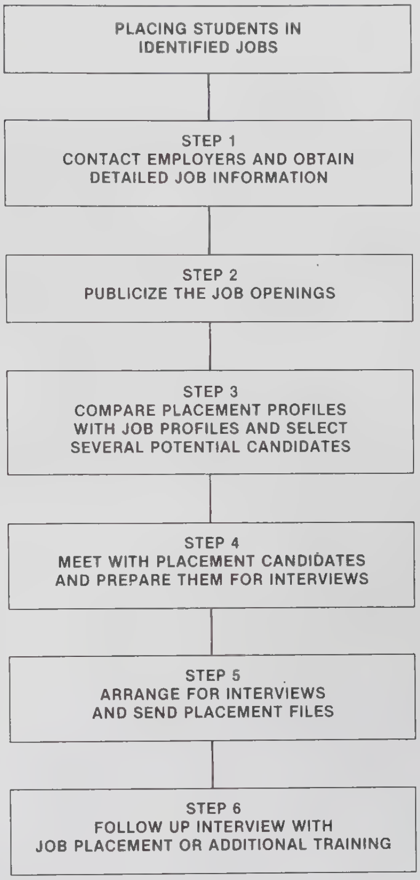
Matching Students with Identified Job Openings. Most school placement personnel use the placement approach that involves selecting from among several placement candidates for a specific job opening. Figure 12.10 shows the procedural steps involved in placing students through this approach.

The first step in this placement approach is to contact the prospective employer immediately after receiving a job order and obtain information about the hiring practices, the type of job, specific job requirements, and other information needed to prepare a job profile. The initial contact is usually made by phone but should be followed up by a visit to the company, if possible. During the company visit, the placement specialist should obtain as much detailed information as possible about entrance requirements, job requirements, and the work environment to supplement the information that was obtained through the phone contact. If time does not permit a visit to the company or detailed information cannot be obtained to prepare a job profile, existing profiles of similar or related jobs can be used in the placement process. Records should be prepared concerning the proceedings involved in this step and filed for future reference.

The second step is to publicize the job opening so that placement team members and potential placement candidates will know about it. Notices of the job opening should be given to appropriate vocational teachers who may have students who can qualify for the job. Job placement profiles should be reviewed to determine if any persons who have left the school have the essential qualifications and, if so, these students should be notified of the job opening.

Figure 12.10

STEPS IN MATCHING STUDENTS TO IDENTIFIED JOBS


PLACING STUDENTS IN IDENTIFIED JOBS
STEP 1
CONTACT EMPLOYERS AND OBTAIN DETAILED JOB INFORMATION
STEP 2
PUBLICIZE THE JOB OPENINGS
STEP 3
COMPARE PLACEMENT PROFILES WITH JOB PROFILES AND SELECT SEVERAL POTENTIAL CANDIDATES
STEP 4
MEET WITH PLACEMENT CANDIDATES AND PREPARE THEM FOR INTERVIEWS
STEP 5
ARRANGE FOR INTERVIEWS AND SEND PLACEMENT FILES
STEP 6
FOLLOW UP INTERVIEW WITH JOB PLACEMENT OR ADDITIONAL TRAINING

The third step in this placement approach is for the placement staff to compare the placement profiles of interested and qualified candidates with the job profile. This procedure should result in identifying several potential placement candidates, but it may turn out that no special needs persons have the qualifications required in the job profile. Placement specialists should consider recommending students who have potential, even though they do not meet all of the required qualifications to match the job profile. With proper orientation, preplacement training, and follow-up services, some of these marginally qualified candidates can become productive employees.

The fourth step is to obtain placement commitments from selected special needs students and to assist them in applying for the job and preparing for the job interview. At this time, a records release form should be obtained from students who wish to have their placement profiles and other appropriate records sent to the employer for review. In this step, placement candidates should be briefed about the company and should be checked to see if they are ready for placement. If time permits, a brief simulated interview should be conducted with those who are to be referred for employer assessment.

The fifth step is to contact the employer and obtain a commitment from the personnel department to interview placement candidates. In obtaining this commitment, placement staff should discuss the candidates' capabilities in reference to the announced job requirements and indicate that candidates are carefully evaluated and screened before they are recommended for placement.

Once the employer agrees to interview the candidates, the special needs persons' records should be sent to the employer for review and a date and time should be arranged for the interviews. The candidate with the best qualifications in relation to the job profile should be sent first.

The final step in this placement approach is to follow up the interviews regardless of the outcome. If one of the candidates is hired, the placement team should provide instruction to the individual regarding the transition from school to work. If one or more of the candidates are rejected, the placement staff should determine why they were not hired and provide appropriate instruction that will improve their chances for placement in the future.

All of the steps involved in this placement approach must be performed immediately upon receipt of a job order. Employers want to fill a job vacancy as soon as possible. If there is any delay, the job may be filled by some other means. This fact points out the need for a well-organized, efficient job placement program.

Finding a Job for a Specific Special Needs Person. The placement approach for finding a specific job or creating one for special needs students may be the most effective one. In this approach, the placement team has sufficient time to develop and assess the potential of students while they are in the vocational program, as well as time to locate appropriate jobs for them when they are ready for placement. The placement staff also has time to identify a number of potential employers who would be willing to redesign their jobs to accommodate qualified special needs persons.

The job redesign technique can be used to provide jobs for special needs students who have difficulty obtaining jobs in their areas of training. In redesigning jobs, employers must be willing to analyze their present job categories and reorganize them. Few employers will be willing to try this venture unless they can see how job redesign will improve productivity. They must be shown how job redesign will release their more experienced and skilled workers to perform job activities that require higher skill levels, thereby increasing worker effectiveness and productivity.

In assisting a willing employer with job redesign, the placement staff should analyze the employer's job structure and use the results of this analysis to zero in on a group of similar jobs that can be redesigned. Each of the jobs in this cluster must be analyzed or broken down into tasks and worker requirements, then sequenced according to ability levels. The final step is to assist the employer in making the necessary physical accommodations and in retraining the displaced workers for their new job activities.

The job redesign process described above is an example of what could be done under ideal conditions. However, job redesign does not have to be this elaborate. Often it must be done under less than ideal conditions, and in this case it may consist of only slightly reorganizing the duties and activities of several jobs, involving minimal time and expense. Simple job redesign can be an attractive alternative for employers who are willing to hire qualified special needs persons but feel they have no suitable jobs available.

Another job redesign alternative that may appeal to employers is to create a homebound job for a qualified special needs person. Sometimes job activities that do not involve the use of heavy machinery and equipment can be performed efficiently at the employee's home. This alternative is attractive to employers who would have to make costly modifications to their facilities to make them accessible or to those who are concerned about what their employees' reactions would be if special needs persons were hired. The homebound employment alternative is also attractive to special needs persons who have limited mobility because of physical handicaps.

The concept of electronic cottages is one example of a homebound employment alternative. A special needs individual working at home receives and performs work via the computer, hence the name electronic cottages. Futurists tell us that many workers will have the option of performing work in an electronic cottage instead of at the plant or firm.

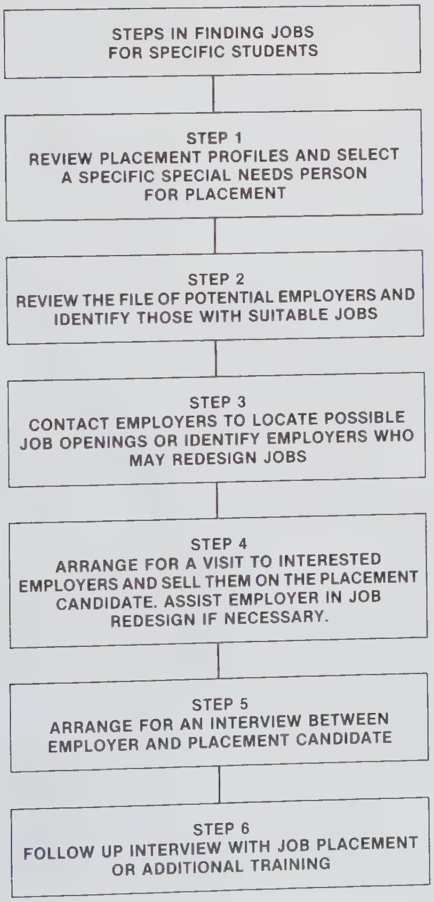
Job placement staff can help the employer set up the job site in a special needs person's home and design a system for scheduling the pickup of work orders and materials from the company and returning the completed work. Placement and follow-up staff can also provide supervision to help homebound employees adjust to a regular work schedule.

The placement approach of finding or creating jobs for special needs persons involves a number of steps that differ from those used in matching candidates to an identified job. These placement steps are shown in Figure 12.11.

The first step in this placement approach is to review the file of placement candidates and select a specific special needs person who is ready for placement. Step two is to review the file of potential employers who may have suitable jobs for the placement candidate, and identify those who should be contacted. The third step is to contact prospective employers to see if they have any job openings for which the placement candidate may qualify. The job redesign process should be discussed with them as well as the possibility of hiring a special needs person on a trial basis without pay. The fourth step is to arrange for a company visit to those employers who express an interest and discuss with them the candidate's capabilities and the services that the placement and follow-up team can provide if the employer is interested in the candidate. Before the interview, the employer should receive the candidate's staff in redesigning similar jobs leading to a possible job opening. The fifth step is to arrange for an interview between the potential employer and the placement candidate. Prior to the interview, the employers should receive the candidate's placement profile and other appropriate records. The placement staff should prepare the candidate for the job interview by providing information about the job entrance requirements and other appropriate information about the job and the company. The final step is to follow up the job interview by providing appropriate placement services to the new employee or to provide additional instruction to the rejected candidate.

Figure 12.11

STEPS IN FINDING A SPECIFIC JOB FOR A SPECIAL NEEDS PERSON


STEPS IN FINDING JOBS FOR SPECIFIC STUDENTS
STEP 1
REVIEW PLACEMENT PROFILES AND SELECT A SPECIFIC SPECIAL NEEDS PERSON FOR PLACEMENT
STEP 2
REVIEW THE FILE OF POTENTIAL EMPLOYERS AND IDENTIFY THOSE WITH SUITABLE JOBS
STEP 3
CONTACT EMPLOYERS TO LOCATE POSSIBLE JOB OPENINGS OR IDENTIFY EMPLOYERS WHO MAY REDESIGN JOBS
STEP 4
ARRANGE FOR A VISIT TO INTERESTED EMPLOYERS AND SELL THEM ON THE PLACEMENT CANDIDATE. ASSIST EMPLOYER IN JOB REDESIGN IF NECESSARY.
STEP 5
ARRANGE FOR AN INTERVIEW BETWEEN EMPLOYER AND PLACEMENT CANDIDATE
STEP 6
FOLLOW UP INTERVIEW WITH JOB PLACEMENT OR ADDITIONAL TRAINING

Criteria for Effective Job Placement

Regardless of the type of placement approach used, the job placement staff should provide the following services:

1. Conduct a continuous program of job development—the process of seeking out existing work opportunities or developing them through job creation or job redesign.
2. Develop good rapport with potential employers so that they will make contact with the school when jobs are available.
3. Collect and synthesize accurate information about each placement candidate and each prospective job so that the placement profiles and job profiles can be prepared.
4. Prepare the placement candidate and the prospective employer—the process of informing the candidate about entrance requirements and job requirements and informing the employer about the preparation and capabilities of the prospective employee.
5. Provide support services to the employer and the placement candidate—the process of arranging for the placement interview, sending the candidate's records, following up the interview with placement assistance or additional training if the candidate is rejected.
6. Follow up the new employee to smooth the transition from school to work for both the employee and the employer.

FOLLOW-UP SERVICES

An important component of an effective job placement program is a continuous follow-up of both the newly employed or rejected special needs person and the employer. Initial follow-up visits help smooth the transition to regular employment for the successful placement candidate. Immediate follow-up services provided to the rejected candidate can lead to the identification of problem areas and appropriate action to overcome them. Follow-up services help ensure that program completers do not disappear into the ranks of the labor market or unemployment rolls.

There are many reasons for providing continuous follow-up services as part of the placement program. Some of the following reasons were expressed by Brolin (1976):

1. Follow-up provides a means of validating the vocational program and the placement program.
2. Follow-up provides feedback to keep the vocational training program relevant to the needs of students and business and industry.
3. Follow-up provides a means of assisting both the employer and employee in case problems arise.
4. Follow-up assures that placement results in continuous employment, which leads to other placements.
5. Follow-up provides a means of continuous support during the difficult, early stages of employment.

Follow-up services must be provided simultaneously to both the newly placed special needs person and to the employer. Information must be obtained from special needs employees to determine their adjustment to the work environment. Some of the questions that should be asked of special needs employees are:

1. Are you performing the work tasks at the rate and quality expected by your employer?
2. Have you encountered any barriers caused by the facilities, equipment, or lack of training?
3. Have you encountered any difficulties in getting along with your supervisor or fellow workers?
4. What do you like best about your job?
5. What do you like least about your job?
6. Are you having any problems getting to work on time?
7. Are you having any problems understanding your work assignments or communicating with others?

Responses to these questions should lead to the immediate identification of problems and provide the follow-up specialist with direction as to how they can be solved through intervention with the employer.

It is important to provide follow-up services to the employer just as it is to the new employee. Employers who have hired special needs persons for the first time often feel uneasy in supervising them. They often have misconceptions about special needs persons that influence their behavior toward them in an adverse way. An open discussion of any identified problems between employee and employer will often keep such problems from reaching a level that could result in early termination of employment.

Follow-up specialists should obtain information from employers about the level of work performance and adjustment of new special needs employees. In collecting information from employers, the follow-up specialist should seek responses to the following questions:

1. Is the new employee performing job tasks at the rate and quality level that you expect of other employees?
2. Is the employee punctual in getting to work and returning from breaks?
3. Do you feel the employee understands the job requirements?
4. Can you communicate clearly with the new employee?
5. Is the employee having any trouble using the machinery or equipment or moving about in the work environment?
6. Does the employee interact successfully with his direct supervisor and with fellow workers?
7. Have you assigned a fellow worker to help the new employee make the transition to work?
8. What do you like best about the employee?
9. What do you like least about the employee?
10. Have any problems surfaced that you think the placement and follow-up team can help overcome?
11. Have you noticed any area(s) in which the employee seems to lack training? If so, please describe the situation.

Each follow-up program has a set of procedures that it follows in providing services to special needs placements and employers. Typically, follow-up services are provided at the end of the first day of employment and weekly for the first month. After this critical period of employment, follow-up services are provided monthly for six months and annually thereafter.

The following procedures are an example of what should be included in a follow-up plan:

1. Near the end of the first day of employment, visit with the new employee and his or her employer. Emphasize the positive achievements during the first workday, but also try to identify any problem areas and take measures to resolve them.
2. At the end of the first week, contact the new special needs employee and his or her employer by phone or personal visit to obtain responses from both parties to questions presented earlier in this module. Counsel with the employee and employer if necessary to work out any problems that have arisen.
3. During the latter part of the second week of employment, visit the company and talk with both the new placement and employer. Observe firsthand the employee's job performance and recommend any required modifications. Obtain additional information

about job satisfaction and worker adjustment from both parties.

4. At the end of the third week, repeat the procedures described in step three.
5. Visit the employer at the end of the first month of employment to assess the special needs employee's progress on the job. Determine if the employer is satisfied with the new employee's work performance and adjustment to work. Following the visit to the employer, meet with the special needs employee and obtain similar information. Counsel with the employee on the basis of information received from both parties.
6. At the end of the second month, visit the company again to observe job performance and to obtain information from the employee and the employer about job satisfaction and work adjustment.
7. At the end of the third through the sixth months of employment, contact the employee and employer by phone or visit the job site to monitor progress on the job and to recommend any required modifications.
8. At the end of one year and annually thereafter, contact the employee and employer by phone, mail-in postcard or survey form, or personal visit to obtain summary information about the placement.

Once a follow-up plan has been developed, this plan must be discussed with both the special needs employee and the employer. Special needs employees need to know that follow-up services are available to help them make adjustments to the work environment. Maintaining contacts with employers assures them that services are available to help resolve any potential problems that may arise during the early stages of employment.

When the first follow-up contact is made with employers, it is important to discuss the follow-up plan and to determine when phone contacts and visits should be made. It is equally important to stress the positive aspects of placement and to indicate that failure is not expected. Advise employers that continuing follow-up services are available and that they may call at any time for further assistance.

Effective follow-up programs begin by providing services to special needs students when they enter the vocational program and continue providing these services long after the student is placed. Special needs students should be informed about the follow-up program during orientation. The orientation to the follow-up program should include information about the purpose of the program, services provided, and operational procedures. Records should be kept on each student, beginning with orientation and continuing throughout the educational program.

An exit interview should be conducted with all students who complete the program or leave the program before completing it to remind them that placement and follow-up services are available and to remind them to respond to the follow-up questionnaires when they receive them.

Immediate follow-up services should be provided to both new special needs employees and their employers during the first week of employment and on a regular basis throughout the first year of employment. Follow-up services should be provided to former special needs students as needed after the first year of employment to help them advance in their jobs or to obtain new ones.

Follow-up questionnaires should be used at least annually to collect information from both former students and their employers regarding job performance, job placement, and the effectiveness of the vocational preparation program. Responses to these questionnaires should provide important feedback that can be used to identify weaknesses in the training program and the placement and follow-up program and give direction for change.

SUMMARY

Satisfying and sustained employment is a critical aspect of adult life. The ability to obtain and hold a job indicates the capacity to participate fully in our society. To special needs persons, as to other individuals, a job brings status and respect. The years of education are of little value to special needs learners unless they can become vocationally productive and partially or completely self-sufficient.

The transition from school to work for special needs learners is not easy because of their disabilities and because of the deeply ingrained attitudes of the general public toward serving these individuals adequately and giving them a chance to prove themselves as good employees.

The need for effective transition and job placement services for all vocational students and especially for those with special needs is critical. Consider some of the major concerns addressed by congress in recent legislation regarding vocational education and employment of special needs persons: an unacceptably high rate of unemployment, underutilization of the special needs workforce, discriminatory practices in employing and promoting special needs persons, and occupational stereotyping that brands them as second-class citizens. Madeleine Will of the Office of Special Education and Rehabilitative Services (OSERS) indicates that the cost of our nation's disability programs is high and rising annually. It has been estimated that 8% of the gross national product is spent each year in disability programs with most of this money being spent on programs that support dependence.

OSERS has responded to the need to help special needs learners make the transition from school to work by making transition a national priority. Transition is defined as a bridge between the security and structure of schools to the opportunities and risks of adult life. Transition begins in high school and continues through the point of graduation, additional postsecondary education or adult services, and to the initial years of employment. Transition is a shared responsibility of the school and community and requires a collaborative effort of all parties involved for transition success.

Several models of transition are included in this module by Will (1984), Wehman (1984), and Brown and Kayser (1982). These models contain foundations of high school and postsecondary education and employment. Each model described transition-enhancing services that complement the typical educational process provided in secondary and postsecondary schools.

A number of key transition elements presented include (a) parental involvement, (b) integrated school and community services, (c) interagency linkages, (d) community-based instructional experiences, (e) formalized planning for transition using IEPs and IPPs as the base, (f) employment outcome options, (g) an inter- and intra-institutional focus, (h) appropriate assignment of transition personnel duties, (i) preinstructional orientation for special needs learners entering vocational programs, (j) effective identification and assessment of special needs learners, (k) adaptability of instructors and curricula to meet the unique needs of special needs learners, and (l) formal, revisable transition policies, practices, and plans.

The concept of transition has tremendous potential for enhancing the employability of special needs learners if implemented effectively in educational programs. Implementing the concept will require a deep commitment and sustained effort on the part of all parties involved in the transition process. Vocational teachers are key individuals in making transition happen. It is the responsibility of vocational teachers with assistance from special education teachers and support personnel to provide the curriculum and instructional experiences so that special needs learners will have a smoother transition to employment. A number of teaching strategies and techniques for enhancing transition are presented, ranging from incorporating employability skills training materials into the vocational program to field visits to potential employers or postsecondary institutions.

Without effective transition job placement and follow-up services, many qualified special needs students will experience great difficulty in obtaining and holding a job. The transition from vocational programs to the work environment is troublesome for most students and particularly for special needs students despite federal legislation, which guarantees these persons the same rights and benefits as other job applicants and employees.

Special needs students can become productive employees if given appropriate vocational education, matched with the needs of business and industry, and the kind of guidance and support services that lead to successful placement. The employment outlook for special needs students is getting brighter. More and more employers who have hired special needs persons are testifying that hiring these persons is a good investment for any employer.

A number of placement options are open for special needs students. These include placement in (a) rehabilitation-sponsored centers and institutions, (b) school system jobs, (c) on-the-job training programs, (d) work-study programs, (e) part-time jobs, (f) full-time jobs, and (g) postsecondary education programs. Of course, the most desirable placement option is in full-time employment. Full-time employment brings status and respect to special needs students and reinforces their ability to fully participate in our society.

The placement and follow-up program of a school depends upon the personnel available to serve as team members. The placement team should include (a) vocational administrators, (b) student personnel specialists and counselors, (c) work sample/evaluation center personnel, (d) T&I teachers, (e) cooperative educational/work-study coordinators, (f) special needs personnel, (g) job placement and follow-up staff, (h) special needs students, (i) advisory committees, and (j) rehabilitation agencies and special needs advocacy groups.

Regardless of the organizational structure of a job placement and follow-up program, the following major services are usually provided: (a) building a market for placement, (b) conducting the preplacement program, (c) placing special needs students in jobs, and (d) providing follow-up services.

SELF ASSESSMENT

1. Explain why transition of special needs learners from school to work has been made a national priority.
2. Operationally define the concept of transition as it applies to special needs learners enrolled in vocational education programs.
3. Explain how vocational education and career education have provided some early transition services

for special needs learners.

4. List some of the reasons why the transition thrust of the career education movement was not effectively carried out in secondary schools.
5. List some of the barriers to transition that must be overcome in secondary and postsecondary schools.
6. Choose several of the barriers to transition that you listed in item #5 and recommend a viable solution that will either reduce the effect of the barrier or eliminate it completely.
7. Why should transition efforts be directed toward employment?
8. Choose one of the transition models presented in this module, identify its components and elements, and describe how the model can be used to provide transition for special needs learners.
9. List some teaching strategies and techniques that vocational teachers could use to enhance transition for special needs learners.
10. Explain why job placement and follow-up services are needed to assist special needs students and graduates in obtaining appropriate jobs.
11. List and describe some of the placement options available for special needs students and graduates.
12. Explain some of the major provisions of the Rehabilitation Act of 1973 that should help handicapped individuals obtain employment.
13. Describe barriers to employment that exist among special needs students.
14. Describe barriers to the employment of special needs students that are caused by the "helping system."
15. Describe barriers to the employment of special needs students that exist in our society.
16. List some of the common misconceptions that employers hold about special needs persons, which become employment barriers.
17. Explain why job placement and follow-up services should be provided by a cooperative team approach.
18. Describe the role that vocational teachers should play in providing job placement and follow-up services.
19. Describe some of the activities involved in building a market for job placement.
20. Describe some of the activities involved in conducting the preplacement program.
21. Describe the placement process of matching students with identified job openings.
22. Describe the placement process of finding a job for a specific special needs person.
23. List the criteria for effective job placement services.
24. List reasons for providing continuous follow-up services as part of the placement and follow-up program.
25. Describe a plan for providing follow-up services to special needs persons, beginning on the first day of employment and continuing on an annual basis.

ASSOCIATED ACTIVITIES

1. Visit your college or university library and identify and read the many articles dealing with transition and job placement for special needs learners.
2. Attend workshops or conferences that are offered locally, regionally, or at the state level that focus on the topics of transition and placement.
3. Visit the local office of employment security and obtain information about services they can provide in placing special needs persons.
4. Identify employers who have hired special needs persons and contact them to obtain information about placement.
5. Contact the nearest local office of vocational rehabilitation and obtain information from them about job placement and follow-up services that they provide.
6. If there is a sheltered workshop or rehabilitation institution nearby, visit it to obtain firsthand information about the placement option.
7. If the placement team approach is not being used in your school, meet with your administrators and discuss the possibility of establishing this system of placement.
8. Obtain all the information possible about job placement and follow-up for special needs persons.
9. Discuss transition, job placement, and follow-up with your craft advisory committee.
10. Contact your job placement and follow-up specialists and offer your services in the placement process.

CASE STUDY: MANUEL'S STORY

Manuel is an academically and economically disadvantaged learner enrolled in a masonry program. He is a bilingual student and speaks Spanish at home. His family, in which there are ten children, came from Puerto Rico seven years ago. Manuel's father is sometimes employed in odd jobs. Most of the time, however, he is unemployed; therefore, the family is on public assistance.

When Manuel first entered public schools in the U.S., he was given a psychological test. His difficulty with English resulted in a low score, which automatically placed him in a special education class for the mentally retarded. When it came time for his periodic reevaluation, he had become proficient enough in English to test out of the special education class. The psychologist was also bilingual and was able to administer the test questions in both Spanish and English.

Currently Manuel is registered in regular classes in the school. He works with a bilingual teacher several times a week and attends a class in a resource room each day for assistance in remedial academics. His reading and math levels are three levels below his peers. The district social worker also has Manuel on her caseload and visits the home periodically in order to keep an open channel of communication between the school and the family. She is also looking into the possibility of enrolling Manuel in a summer youth employment program run by a local JTPA sponsored agency.

An IPP has been prepared for Manuel, which lists the learning objectives and activities required to help him succeed in the vocational program of masonry. Particular attention has been devoted to transition-enhancing activities in the IPP, which will assist Manuel in finding employment so he can help support his family. Manuel is succeeding in the skills development phase of the masonry program. He has demonstrated proficiency in laying brick, making bonds and ties, building footings and arches, and working with a variety of materials such as glass, cork, cement, and artificial stone.

He has been having difficulty keeping up with the classroom lectures and reading assignments as well as in the areas of construction theory and blueprint reading. The resource room teacher and the bilingual teacher are both working cooperatively with the program instructor to help him in these areas.

Manuel's vocational teacher has taken him along on several visits to job sites where masonry workers are employed. One of these workers, of Spanish decent, took an interest in him after overhearing the masonry instructor talking with the foreman about Manuel's capabilities. This Spanish worker agreed to let Manuel work with him part-time in the evenings after school to help him further develop his masonry skills.

RELATED ACTIVITY

Janice Scott is the home economics teacher in a large comprehensive high school. She is one of nine vocational teachers. The other vocational teachers are from industrial arts, diversified cooperative training, business education, transportation, electronics, agriculture, marketing and distributing, and health occupations education. Mr. Martin is the vocational supervisor who serves as an assistant principal in charge of vocational education and other assigned areas.

Other school personnel who work closely with the vocational faculty include two counselors, two special education teachers, and the librarian. The principal is very supportive of vocational education and provides as much financial support as the budget will allow.

The vocational program at Winterville High School is recognized in the community and surrounding area as being a vital part of secondary education. Community representatives provide input in the program through active participation in General and Craft Advisory Committees.

Mrs. Scott's advisory committee has recommended for several years that the vocational program should establish a formal job placement program to assist graduates in finding employment in the community and region. One of the new members just moved into the community from another area where she served on an advisory committee for another school vocational advisory committee. In her former committee work she was involved in helping the school establish a transition and job placement program for all students. She introduced the concept of transition to the group and captured their interest. Two of the home economics craft advisory committee members met with the overall vocational advisory committee and introduced the concept of establishing a formal transition and job placement process. The General Vocational Advisory Committee recommended that the school establish a transition and job placement program as soon as possible to help place graduates in postsecondary education institutions and/or employment. The principal, vocational supervisor, and superintendent reviewed the General Vocational Advisory Committee recommendation and agreed to begin work on establishing the program.

The vocational faculty has been assembled in the library of the school and you are one of the vocational teachers. You have just been asked by the vocational supervisor to coordinate the efforts of other teachers in developing a tentative plan for establishing a transition and job placement program in the school that will feature a school team effort.

Describe how you would develop the plan. Include a rationale for it, what components and services will be in the plan, who will be involved in transition and placement services, and how transition and placement services will be provided. Your plan should be written in the form of a proposal that could be submitted to the local board of education for approval.

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